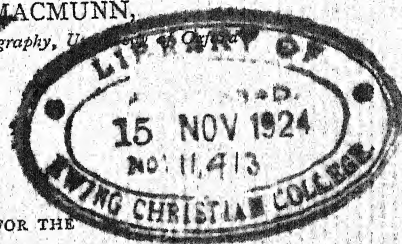


GUIDE TO GEOGRAPHICAL BOOKS AND APPLIANCES

THE SECOND EDITION OF
"HINTS TO TEACHERS AND STUDENTS ON THE
CHOICE OF GEOGRAPHICAL BOOKS FOR
REFERENCE AND READING"

BY
H. R. MILL, LL.D., D.Sc.,
DIRECTOR OF THE BRITISH RAINFALL ORGANIZATION

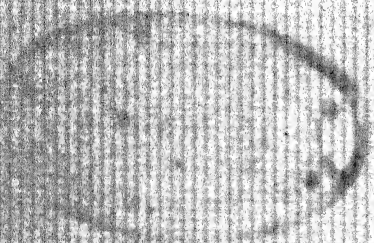
REVISED BY
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Honorary Secretaries of the Geographical Association,
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PREFACE TO THE NEW EDITION

DR. H. R. MILL having presented all his rights in his book *Hints to Teachers* to the Geographical Association on condition that a new edition was produced, the Committee of the Association asked Mr. Unstead and Miss MacMunn to prepare it, and the Hon. Secretary to act as general editor. Mr. Unstead is responsible for the introductions and lists of books on the teaching of geography, atlases and maps (the letterpress of which incorporates some of Dr. Mill's text revised by Mr. Herbertson), geographical apparatus and pictures, geographical novels, general reference works, text-books for school use, and also for the lists of school books printed at the end of other sections. Miss MacMunn has revised and brought up to date the chapters dealing with the different parts of the world, and has added lists of important articles in various periodicals. The general editor has revised the lists of reference books in physical, biological, and human geography, and prepared the introductions to these chapters, using much of Dr. Mill's text.

As regards school text-books, the last paragraph of Dr. Mill's preface does not apply in so far as Mr. Unstead obtained catalogues from various publishers of school books and wall maps. It need hardly be said that otherwise the publishers have not been consulted. Mr. Unstead's lists of school books and maps were submitted to three members of the Committee, Mr. J. L. Holland, Secretary to the Education Committee of the Northamptonshire County Council, Mr. E. F. Elton, Wellington College, and Mr. T. Alford Smith, St. Dunstan's College, Catford, and their decision as to inclusions has been accepted. The Committee of the Association decided not to refer to school books published without the name of the author. They give notice that, in future editions, books and atlases without author's or editor's names, without dates, and atlases without proper indication of scale and projection on the maps will be excluded.

It must be clearly understood that each editor alone is responsible for his own section of the work, and that the Association is not bound by any opinions expressed in this book. The proofs have been read by the three editors, and also by Mr. H. O. Beckit, Assistant to the Professor of Geography in Oxford, to whom thanks are due. Dr. Mill has also examined the proofs and expressed his satisfaction with the way in which the original work has been completed and extended.

The thanks of the compilers and of all students of geography are due to Dr. Mill for the original work, which has been of so great assistance in promoting sound views and in guiding many beginners in the study of geography. Those who have prepared the present edition will be grateful if their revision proves as useful to others as the original has been to them.

For the information of foreign critics it may be noted that the book is not a bibliography of Geography, but is prepared as a guide primarily for teachers who can read only English, and that consequently very few foreign works are included.

EXTRACT FROM THE PREFACE TO FIRST EDITION

THE object of this little volume is to place before teachers and students a selection of the best available books on Geography as an educational subject, and on different parts of the world. An effort has been made to include all cheap editions of recognised authorities; but it is too much to hope that this has been completely successful. So many inquiries are made by teachers and others for the names of works published at 5s. or less, suitable for school prizes, for placing in libraries, or for use as reading books, that a bibliography of low-priced geographical books is sure to be useful. As a rule, only books known to the compiler as trustworthy in fact and interesting in style have been included; but a few are added on the recommendation of friends.

In order to guide the reading of those to whom a good library is available, a selection of more expensive works, and of books now out of print, has been added. These, it may be observed, are often to be purchased second-hand at very low prices, the best books, from a geographical point of view, being frequently in small demand, and of little profit to the bookseller. The prices must not be taken as if this were a second-hand bookseller's catalogue. They are in all cases the publishers' prices for the books when new. In most cases they are subject to discount, while in many instances the prices of the books have been reduced since their publication. When the published price of a book could not be ascertained, the probable price is given preceded by *ca.* Works in the English language have first been chosen, but in some departments of Geography there are gaps which it seemed better to fill with French or German works of standard value than to leave vacant.

The introduction to the various sections of the bibliography are only practical hints on the use of the books afterwards mentioned; they do not pretend to possess any independent value. The lists are given in alphabetical order according to the authors' names.

It is, perhaps, necessary to state in this age of advertisement that no publisher has been informed of the preparation of these lists, which are compiled solely with regard to what the compiler believes to be the merits of the books.

H. R. M.

ROYAL GEOGRAPHICAL SOCIETY,
1 SAVILE ROW, LONDON, W.,

July 1897.

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GUIDE TO Geographical Books and Apparatus

CHAPTER I

THE TEACHING OF GEOGRAPHY

THE notes that precede the lists of books in this and the succeeding chapters are intended to form a guide, not to the teaching of geography, but only to the selection of the books, maps, and apparatus required for the teaching of it. Yet because the selection of the equipment is conditioned by the use to which it will be put, a portion of the notes deals with the use of these aids to teaching. Accordingly, in the introductory part of this chapter, it is proposed to give some hints as to the use of the books and papers dealing with the teaching of geography.

In recent years both the aims and methods of teaching the subject have undergone great changes. These have been introduced gradually after due experiment, so that now many teachers have a more or less complete system; yet these changes have failed to penetrate the conservatism of a number of schools. While the literature of the subject shows the great improvements that have been evolved, the inspection of schools and the examination of papers reveal the need of the adoption of these improvements in a considerable proportion of schools.

There are two methods by which teachers may get into

touch with the newer ideas. The one is by the study of writings upon the teaching of geography, such as those catalogued below ; the other is by study of the subject-matter of the science itself under the guidance of modern geographers. This study of a subject itself is, of course, always necessary ; but in the case of geography it is the key to the teaching, for the advance in pedagogic methods is in the main due to the advance in the understanding of the science of geography. Hence, if the opportunity for study under a master of the subject is lacking, the teacher must at least read the standard writers. Compilations at second hand duly diluted for the consumption of the immature must not form the entire contents of his library.

A short course might be suggested as follows : 1. *Physical Geography*, as taught in the works by Professor Davis or Professor Dryer or in one of the other American text-books mentioned in the next chapter ; 2. *Human Geography*, as outlined in *Man and his Work* by Mr. and Mrs. Herbertson, in *Applied Geography* by Dr. Keltie, and treated more fully in one of its branches in the *Handbook of Commercial Geography* by Mr. Chisholm ; 3. *Regional Geography*, at least of one region, as in *Britain and the British Seas* by Mr. Mackinder ; 4. *Home Geography*, the study of one's own neighbourhood, by actual observation with the aid of the ordnance and geological maps, somewhat on the lines of Dr. Mill's *Fragment of the Geography of England* (*Geographical Journal*, vol. xv., 1900).

Only after such a study is one able to read with insight the literature dealing with the teaching of the subject. The conditions of teaching are so different in different schools that ideas and advice, however excellent, have to be modified and adapted to special needs. Writings on the subject must be considered as merely giving suggestions.

The appended list has been made as thorough as possible in order to meet the wants of all classes of teachers. On

the one hand, some books containing carefully worked-out specimen lessons and details of special methods have been included ; at the other extreme are books which deal with the theoretical position of geography in education or the organisation of its teaching in foreign countries. At the present time, when reform is needed so greatly and in so many ways, no aspect of the subject should be left in obscurity. Moreover, experience shows that careful thought in any one direction produces effects in other directions, and has an influence upon a wide range of practical work.

Certain writings of foreign educationalists and geographers have been included, for they are playing a very important part in the reform of geographical study and teaching, and their work is full of suggestions for us in Britain.

For convenience of reference, books and pamphlets are placed in the first list. The second gives particulars of the journals which are devoted entirely to the educational aspects of geography. The articles which have appeared in these are so numerous that an enumeration of them is impossible ; yet for that very reason the volumes should be consulted, for there are few aspects of the subject which have not been dealt with, often by more than one contributor. In the third list will be found the titles of articles which have appeared in one or other of the more important geographical journals, and have a direct bearing upon the teaching of the subject. Finally, many papers in the ordinary educational journals of course deal with geography and are of value ; but their number and the limited concern which many of them have with geography forbid the compilation of a list.

NOTE.—As it may be difficult to obtain a number of the works mentioned here and in later chapters, readers are reminded that most of them are in the Library of the Royal Geographical Society, to which members of the Geographical Association are allowed access on presentation of their card of membership.

THE TEACHING OF GEOGRAPHY

(a) Books and Pamphlets

ARCHER, R. L., LEWIS, W. J., and CHAPMAN, A. E., *The Teaching of Geography in Elementary Schools.*

Black, 1910. Pp. 255. Price 3s. 6d. net.

The most complete and useful work which has yet been published on this subject.

BECKER, ANTON, *Methodik des geographischen Unterrichts.*

Leipzig: Deuticke, 1905. Pp. vii. 90. Price 3M.

A practical handbook for the guidance of teachers: the first section deals with the preparation and work of the teacher; the second with the scholars and their instruction; the third with aids to teaching, such as maps, apparatus, and outdoor work.

BOARD OF EDUCATION, *Suggestions for the Consideration of Teachers . . . in Public Elementary Schools.* Chapter VII.—Geography. (Cd. 2638.) Wyman, 1905. Price 8d. net.

An extremely useful paper, pointing out the modern views of geography and its educational value, and suggesting methods of teaching it. In an appendix, two specimen schemes are suggested as suitable to elementary schools.

BRITISH ASSOCIATION, *Report on the Position of Geography in the Educational System of the Country.* 1897.

This report was drawn up by Mr. Herbertson, as secretary of a special committee of the British Association, and may be looked upon as a supplement to Dr. Keltie's Report of 1886 (see below).

BUSK, H., *Geography as a School Subject.*

Philip, 1895. Pp. 31. Price 6d. net.

A pamphlet printed for the Teachers' Guild of Great Britain and Ireland.

COWHAM, J. H., *Graphic Lessons in Physical and Astronomic Geography.*

Westminster School Book Depot. Latest edition. Price

Useful to young teachers as showing good methods of presenting the subject-matter.

— *The School Journey.*

Westminster School Book Depot, 1900. Price 1s.

Detailed accounts, with illustrations, of three good schools, undertaken by the author and his pupils.

DAVIS, W. M., The Progress of Geography in the Schools.

Chicago, 1902.

A paper on American conditions issued in the First Year-Book of the National Society for the Scientific Study of Education.

— An Inductive Study of the Content of Geography.

Association of American Geographers, 1905.

DICKINSON, B.B., Geography as a School Subject.

Philip, 1896. Pp. 32. Price 6d.

A pamphlet printed at the request of the Geographical Association "to show that geography can be taught as a training of the mind."

FITCH, SIR J. G., Chapter on "Geography and the Learning of Facts" in "Lectures on Teaching."

First edition, 1881.

Cambridge University Press. Price 5s.

Interesting as showing the views which prevailed among the best educationalists in 1880, when the lectures were delivered at Cambridge University.

FREW, DAVID, Object Lessons in Geography and Science.

Blackie. In three parts, each 1s. 6d.

Practical and helpful books worked out in detail on heuristic lines.

FRYE, A. E., The Child and Nature.

Boston and London: Ginn. Pp. 210, 12mo. Price 4s.

Geography teaching with the aid of sand modelling.

— Teachers' Manual of Methods in Geography.

Boston and London: Ginn. Pp. 190. Price 2s. 6d.

Written for American teachers, but containing useful hints.

GEIKIE, SIR A., The Teaching of Geography. Second edition, 1892.

Macmillan. Pp. x. 205. Price 2s.

A suggestive book, written in 1887, which marked and aided an advance in geographical education, laying particular stress upon the observational part of the work.

GEOGRAPHICAL ASSOCIATION, VARIOUS MEMBERS OF, Lectures on the Teaching of Geography.

Philip, 1909. Price 1s. net.

Five lectures delivered in London in 1908, to members of the Geographical Association. The titles of the lectures are:

1. Methods of Approach in Geographical Instruction. G. G. Chisholm, M.A., B.Sc.
2. Scientific Method in the Teaching of Geography. Prof. R. A. Gregory.
3. Physical Geography as an Essential Part of School Geography. T. Alford Smith, B.A.
4. Notes on Geographical Laboratories. A. T. Simmons, B.Sc.
5. Orographical Maps and Geographical Lessons. A. J. Herbertson, M.A.

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GONNER, E. C. K., *Article on Geography in "Teaching and Organization,"* edited by P. A. Barnett.

Longmans, 1897. Price 6s. 6d.

GREGORY, J. W., *The Teaching of Geography.*

Melbourne: Whitcombe & Tombs, 1902. Pp. 48. Price 1s.

A suggestive lecture. It is, however, based on the idea that geography is not a science, but merely a description of the conditions of the Earth's surface and its inhabitants.

GRUBER, CHRISTIAN, *Geographie als Bildungsfach.*

Leipzig: Teubner, 1904. Pp. xvi. 154.

A comprehensive study of the relations between the science of geography and geography as an educational subject, the historical development of the latter, its position in education, and the means of instruction.

— *Die Entwicklung der geographischen Lehrmethoden im XVIII. und XIX. Jahrhundert.* Munich: Oldenburg, 1900.

A review of the past, and an outlook on the present developments.

GÜNTHER, S., *Mathematische Geographie; and*

KIRCHHOFF, A., *Erdkunde.*

These are portions of the "Handbuch der Erziehungs- und Unterrichtslehre für höhere Schulen." Zweite Auflage, 1906.

Munich: Beck.

Typical of modern German views on the teaching of their respective subjects.

HERBERTSON, A. J., *Chapter on Geography in "The Practice of Instruction,"* edited by J. W. Adamson.

National Society's Depository, 1907. Price 4s. 6d. net.

KELTIE, J. S., *Geographical Education: Report to the Council of the Royal Geographical Society.*

Murray, 1886. Price 7s. 6d.

This serves as a landmark in the history of geographical teaching, giving a concise view of the systems of education in geography of the chief continental countries and of the United Kingdom in 1884-5. It also contains a catalogue of an Exhibition of Books and Appliances, and Reports of Lectures by Mr. Ravenstein, Dr. Keltie, Mr. Bryce, and Prof. Moseley.

LEHMANN, RICHARD, *Vorlesungen über Hilfsmittel und Methode des geographischen Unterrichts.*

Halle, 1885-97 (Supplement). Price complete, ca. 10M.

One of the earliest and most detailed works on the subject.

LYDE, L. W., *The Teaching of Geography.*

Blackie, 1909. Price 1s. net.

The substance of some useful lectures, with practical hints to teachers.

MACKINDER, H. J., *From Nature Study to Geography.*

Philip, 1908. Price 6d.

Reprinted from "The Geographical Teacher," June, 1904.

McMURRY, C. A., *Special Method in Geography.*

New York : Macmillan Co., 1903. Pp. 217. Price 3s. net.

Although written as a guide to American teachers, this book is full of suggestions of general value, especially in the introductory chapters on aims and selection of material.

— *Excursions and Lessons in Home Geography.*

New York : Macmillan Co., 1904. Pp. 152. Price 2s. 6d.

Also full of suggestions useful to the British teacher.

OLDHAM, H. YULE., *Article on Geography in "Aims and Practice of Teaching,"* edited by F. Spencer.

Cambridge University Press, 1897. Price 6s.

PARKER, F. W., *How to Study Geography.*

New York : Appleton, 1889. Pp. xxxv. 405. Price 6s.

Deals with the problems of how to teach geography as the basal study in schools, and consists largely of full teaching-notes written specially for American schools.

REDWAY, J. W., *Teacher's Manual of Geography.*

Boston : Heath. Pp. 175. Price \$0.65.

"Modern Facts and Ancient Fancies in Geography." Aims at making recent discoveries available for the use of teachers, and discusses time-worn traditions in the light of modern ideas.

REYNOLDS, J. B., *The Teaching of Geography in Switzerland and North Italy.* Cambridge University Press. Price 2s. 6d.

A report based upon a visit in 1898, containing information suggestive to English teachers studying modern methods.

RICHTHOFEN, F. VON, *Aufgaben und Methoden der heutigen Geographie.* Pp. 72. Leipzig, 1883.

— *Triebkräfte und Richtungen der Erdkunde im neunzehnten Jahrhundert.* Rektoratsrede. Berlin, 1903.

The first is one of the modern attempts to define geography. The latter summarises the author's views as physical geographer on the scope of geography, after many years' experience as a teacher.

ROYAL GEOGRAPHICAL SOCIETY, *Syllabus of Instruction in Geography.* Pp. 17. Single copies gratis on application at the Society's House, 1, Savile Row, W. 1903.

Very useful suggestions as to syllabuses suitable, 1. In Elementary Schools, by G. G. Chisholm, 2. In Higher Schools, by H. J. Mackinder.

SUTHERLAND, W. J., The Teaching of Geography.

Chicago: Scott, Foresman & Co., 1909. Pp. 295. Price 6s. net.

A useful volume for the president of a State Normal School, setting forth the American point of view.

TROTTER, SPENCER, Lessons in the New Geography.

Boston: Heath. Pp. viii. 182. Price \$1.

A stimulating book, laying emphasis on the imaginative and human aspects of the subject.

WAGNER, H., Bericht über die Entwicklung der Methodik und des Studiums der Erdkunde. "Geog. Jahrbuch," 1882, 1884, 1888, 1890.

Indispensable articles in studying the development of the teaching of geography.

WELPTON, W. P., Chapter on Geography in Prof. Weldon's "Principles of Teaching."

University Tutorial Press, 1906. Price 4s. 6d.

Traces out in some detail a school course in geography, giving many useful hints and ideas.

WETHEY, E. R., A Geography Lesson: The Blackboard and Oral Teaching.

Philip. Price 6d.

A suggestive pamphlet printed at the request of the Geographical Association.

(b) Journals devoted to the Teaching of Geography**The Geographical Teacher.** Edited by A. J. HERBERTSON.

The organ of the Geographical Association. Philip. Pp. 64. Price 1s. 6d. each number. Published three times a year.

The only British journal "for the discussion of methods of teaching geography and the diffusion of information useful to teachers." The series, commenced in October, 1901, contains articles on every aspect of the subject. It is supplied gratis to members of the Association. Bound and indexed volumes can be obtained at the price of 5s. 6d. for Vol. I. (Nos. 1-4), and 7s. 6d. for Vols. II., III., and IV. (Nos. 5-10, 11-16, and 17-22). Numbers before 1909 were of 48 pp., and cost 1s. each.

The Journal of Geography. Edited by PROF. R. E. DODGE.

Ten numbers, each 48 pages, per annum. New York: Teachers' College, Columbia University. Price \$1.40 a year in advance for countries in the Postal Union.

This incorporates the former *Journal of School Geography* and the *Bulletin of the American Bureau of Geography*.

Many of the articles are of value to British teachers, either for their suggestions as to aims and methods, or their information on the geography of America.

Geographischer Anzeiger. Edited by H. HAACK and H. FISCHER. Gotha: Perthes. Pp. 24. Published monthly. Price 6M. per annum.

"Blätter für den geographischen Unterricht"—similar in aim and scope to "The Geographical Teacher."

Zeitschrift für Schulgeographie. Edited by G. RUSCH. Vienna: Published monthly. Price 6M. per annum.

The oldest magazine dealing with the educational aspects of geography.

(c) Articles in other Geographical Journals

(For particulars of these see List of Journals in later chapter)

THE GEOGRAPHICAL JOURNAL

Among papers in recent volumes are the following:

ANDREWS, A. W., *The Teaching of Geography in relation to History.* G.J., Vol. IX., 1897.

BRYCE, RT. HON. J. *The Importance of Geography in Education.* G.J., Vol. XIX., 1902.

(Also printed in "The Geographical Teacher," February, 1902.)

DODGE, R. E., *Scientific Geography for Schools.* G.J., Vol. XI., 1898.

DUFF, SIR M. E. GRANT, *On the Educational Work of the Royal Geographical Society.* Proc. R.G.S., Vol. XIV., 1892.

FRESHFIELD, D. W., *The Place of Geography in Education.* Proc. R.G.S., Vol. VIII., 1886.

GOLDSMID, SIR F. J., *On the Means of Popularising the Study of Geography.* Proc. R.G.S., Vol. VIII., 1886.

HERBERTSON, A. J., *Recent Discussions on the Scope and Educational Applications of Geography.* G.J., Vol. XXIV., 1904.

— *Recent Regulations and Syllabuses in Geography affecting Schools.* G.J., Vol. XXVII., 1906.

MACKINDER, H. J., *On the Scope and Methods of Geography.* Proc. R.G.S., Vol. IX., 1887.

— *The Teaching of Geography at the Universities.* Proc. R.G.S., Vol. IX., 1887.

— *Modern Geography, German and English.* G.J., Vol. VI., 1895.

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MILL, H. R., *Commercial Geography, Summary of Lectures.* G.J., Vol. III., 1894.

RAVENSTEIN, E. G., *The Field of Geography.* Proc. R.G.S., Vol. XIII., 1891.

WARREN, SIR C., *Address on Geographical Education.* Proc. R.G.S., Vol. IX., 1887.

(NOTE.—The "Proceedings of the Royal Geographical Society" was the predecessor of "The Geographical Journal," which since 1893 has been issued in two volumes annually.)

THE JOURNAL OF THE MANCHESTER GEOGRAPHICAL SOCIETY

DANN, E. W., *What is Geography?* Vol. XX., 1904.

(Also in "The Geographical Teacher," October, 1905.)

HERBERTSON, A. J., *The Position of Economic Geography in Education.* Vol. XIV., 1898.

HEWLETT, E. G. W., *The Position of Geography as a School Subject.* Vol. XI., 1895.

HINDSHAW, R. C., *On the Use of Models in Teaching Elementary Geography.* Vol. II., 1887.

KELTIE, J. S., *Geographical Education on the Continent.* Vol. II., 1887.

MACKINDER, H. J., *The Necessity of Thorough Teaching in General Geography, as Preliminary to Teaching Commercial Geography.* Vol. VI., 1890.

MARTIN, H. C., *Geography in Schools.* Vol. XXI., 1905.

MILL, H. R., *On the Teaching of Geography in Russia.* Vol. VI., 1890.

SILVERBACH, J. H., *The Teaching of Elementary Commercial Geography in Primary and Secondary Schools.* Vol. V., 1889.

STURGEON, M. K., *The Teaching of Elementary Geography: A Practical Lesson with Models.* Vol. III., 1887.

YEATS, J., *Relations between Commercial History and Geography.* Vol. II., 1886.

THE SCOTTISH GEOGRAPHICAL MAGAZINE

BLAIKIE, W. B., *How Maps are Made.* Vol. VII., 1891.

- CHISHOLM, G. G., *The Meaning and Scope of Geography.* Vol. XXIV., 1908.
- DARROCH, A., *The Teaching of Geography.* Vol. XXII., 1906.
- DAVIS, W. M., *Geography as a University Subject.* Vol. XIV., 1898.
- GEDDES, P., *Nature Study and Geographical Education.* Vol. XVIII., 1902.
- HERBERTSON, A. J., *Geographical Education.* Vol. XII., 1896.
- *Geography in the Universities.* Vol. XVIII., 1902.
- HOBBS, W. H., *Apparatus for Instruction in Geography and Structural Geology.* Vol. XXIV., 1908.
- KELTIE, J. S., *Geographical Education.* Vol. I., 1885.
- LAURIE, S. S., *Method applied to the Teaching of Geography in the School.* Vol. II., 1886.
- MACKINDER, H. J., *The Physical Basis of Political Geography.* Vol. VI., 1890.
- MILL, H. R., *Scientific Earth Knowledge as an Aid to Commerce.* Vol. V., 1889.
- RECLUS, E., *The Teaching of Geography: Globes, Discs, and Reliefs.* Vol. XVII., 1901.
- ROUSIERS, P. DE, *The Teaching of Geography and Social Science.* Vol. VIII., 1892.
- WAGNER, H., *The Teaching of Geography in Germany.* Vol. IX., 1893.

GEOGRAPHISCHE ZEITSCHRIFT

- BLUDAU, A., *Das Kartenzeichnen in der Schule.* Vol. III., 1897.
- FISCHER, H., *Die Atlanten an den preussischen höheren Schulen.* Vol. IX., 1903.
- ILDA, E., *Anforderungen an ein Lehrbuch der Erdkunde.* Vol. VIII., 1902.
- LEISTBECK, A., *Über Kulturgeographie im Unterrichte.* Vol. II., 1897.

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HETTNER, A., Die Entwicklung der Geographie im 19. Jahrhundert. Vol. III., 1898.

— Grundbegriffe und Grundsätze der physischen Geographie. Vol. IX., 1903.

— Das Wesen und die Methoden der Geographie. Vol. XI., 1905.

KIRCHHOFF, A., Sinn und Behandlungsweise der politischen Geographie im Unterrichte. Vol. I., 1895.

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— Ziel und Methode des geographischen Unterrichts. Vol. IX., 1903.

MÜLLER, J., Die Bedeutung geologischer Profile für den Geographie-unterricht. Vol. IV., 1898.

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VIDAL DE LA BLACHE, P., Le principe de géographie générale. Vol. V., 1896.

— Leçon d'ouverture du cours de géographie. Vol. VIII., 1899.

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Accounts of the educational position and geography in various countries will be found in the Reports of the successive International Geographical Congresses and in the geographical magazines of other countries.

CHAPTER II

ATLASES AND MAPS

OF all works of reference in Geography an atlas is the most indispensable, and in the study of the subject an atlas should always accompany the book used by the pupils. The same atlas cannot be used for every purpose, and reference and school atlases at least must be considered separately.

REFERENCE ATLASES

Reference atlases are of two kinds—topographical and those dealing with other geographical conditions. The reference topographical atlas should be as full, and the maps it contains on as large a scale, as can be procured. No really good reference atlas can be very cheap, and when an atlas costing only a few shillings is advertised as containing a very large number of plates, the intending purchaser would do well to refrain. Such atlases are often produced by the use of old plates, and cases are known in which the condemned plates of an old atlas, which had been good in its day, have been purchased, clumsily altered in a few places, and used to print a cheap edition with a new and attractive title. If teachers, who are perhaps the chief purchasers of cheap reference atlases, knew how to test the maps before buying them, an effective blow would be dealt at a serious evil. In consequence of the uninstructed demand for cheap atlases, the idea is abroad that the best maps cannot be produced in this country.

They cannot, perhaps, be produced here as cheaply as in Germany on account of the higher rate of wages and greater cost of materials ; but by an intelligent demand for good work, and a discriminating rejection of bad work, British map-makers would be encouraged to produce as a matter of course fine maps such as at present they can only publish at a loss. If we are obliged to use foreign atlases, they are, at any rate, more easily read than foreign books, for the names are usually given in their native form, *e.g.*, in a German atlas the names on the map of France are in French, those on the maps of the British Isles and the United States in English.

It is still a rare thing to see an intelligent criticism of an atlas in an English paper ; and, profiting by experience of the way in which the "reviewer" forms his judgment, the compilers of atlases have too often indulged in the objectionable practice of prefixing a laudatory preface in which the good points in their wares are dilated upon unduly, and the bad points, which are perhaps more numerous, are quietly passed over.

The first thing to notice in any topographical atlas is the selection of maps and their scale. If it were possible to have the whole world represented on the same scale, and that a fairly large one, it would certainly be best ; but in existing conditions all that one can hope for is to find the most important regions shown on the largest scale, and all areas of equal importance on the same scale. For example, in an atlas intended for the British public, the continents of Asia, Africa, North America, South America, and Australasia should be shown drawn on the same scale. Europe should be shown on a larger scale on account of the small size and great number of its countries. Among the maps of countries, the British Islands should appear on the largest scale of all. The British Lands beyond the Seas and the United States should be given on a scale large

enough to show the states or corresponding subdivisions, and not much smaller in scale than the separate countries of Europe; all of which, with the necessary exception of Russia and perhaps Northern Scandinavia, should be on one common scale. A map of the Arctic and of the Antarctic regions, a map of the world on an equal area network, elliptical or in two hemispheres, and perhaps a chart on Mercator's network, should be insisted on as a minimum of general maps.

In a reference atlas the maps should show the relief of the land as well as political conditions. The importance of accurate graphic representation of relief cannot be exaggerated.

The relief of the ground is shown by contour lines or hill-shading, or else combinations of these. Contour lines show absolute height above sea-level. If the space between the lines is coloured so that the elevation is indicated by the particular shade of colour, a graphic and very useful map is produced. This absolute height is only one factor of relief, and the other one, the slopes of the surface, is not so easily read from contour lines unless these are drawn at very short and equal intervals. The indication of slopes by hill-shading of one kind or another is desirable, but unless it is very well done it may make for confusion. Some of the best orographical maps are coloured according to contours, and also have the hill-shading superimposed. Where hachures are employed, the heights of the more important features should be added to indicate the elevation above sea-level. The boundaries of political areas may be shown on such maps, either by dotted or continuous lines in some distinctive colour.

Other important points are the choice of names, and the date to which the work has been brought down. For the purpose of testing this in a reference atlas, take a number of names from the shipping news, and from the foreign

intelligence of a newspaper, avoiding such as could not reasonably be expected to figure in an atlas (*e.g.*, villages passed by an expedition in a little-known country), and look for them in the index, and, by the indication there given, on the map. On the larger-scaled maps all the places which the intending purchaser has personally visited should be looked up, and the routes of his own journeys traced carefully. Thus mistakes, such as the placing of a railway or a town on the wrong side of a river, may possibly be detected.

Much attention should be given to the appearance of the maps, and an unfavourable opinion is justified if the rivers are indistinguishable from roads or railways or boundary lines; if the relief is not properly shown by contours or hachures; if definite heights are not attached to important passes, peaks, and places; if the names are indistinctly printed, or the precise point each refers to is left in doubt; if the colours are crude, or if they are not distinguishable one from another by artificial light; above all, if the "register" is defective—*i.e.* if the colours are not correctly superimposed, but spread beyond or fall short of the limits they should occupy. Further, every map should show the features which it illustrates over the whole of its surface, and not to any political or conventional boundary.

Though topographical atlases are the most important for reference purposes, no school library should be without reference atlases dealing with the distribution of other geographical conditions. The more important of those dealing with climatic, oceanographical, biological, anthropological, economic, historical, and other conditions are mentioned in the following list. These are essential for any serious study of geography, and are needed to supplement the smaller and less detailed maps illustrating such matters in a school atlas.

Only experience can guide the critic of maps, and he

may make his first attempts by purchasing the cheapest atlas he can find, and examining it to find how far it answers the requirements mentioned above. If, as may very well happen, defects are found in an atlas otherwise good, the publisher or cartographer will welcome a polite letter pointing them out. The chances are that he already knows of them ; but evidence of the fact that he is working for an alert and intelligent public has always a wholesome effect.

SCHOOL ATLASES

In choosing school atlases, intended for the use of pupils in the class or at home, other considerations have to be taken into account. The necessity for a low price fixes a limit to the number of the maps. The selection of the educationally valuable elements, clearness of drawing and legibility of printing, are all important. Any overcrowding of features or names, and any obscurity of the maps, should lead to the rejection of the atlas. If a reference atlas is to be tested by the completeness and accuracy of its information, a school atlas is to be judged by the educational value of every line, tint, and name upon it.

Some time ago, at the request of a County Education Committee, the Geographical Association appointed a sub-committee to consider the questions of the contents of an elementary school atlas and the possibility of the Association undertaking the publication of such a work. The report of the sub-committee has been discussed by the Committee, which has drawn up the following recommendations for such an atlas :

(1) That it is desirable that an elementary school atlas of at least twenty-four pages, of about 10 by 8 inches, should be available and sold for sixpence.

(2) That this atlas should include, in addition to oro-

graphical maps, others showing vegetation, temperature, and rainfall, including indications of the rainy seasons, at least where these are well marked.

(3) That the use of "photo-relief" maps is not recommended.

(4) That political boundaries should, where inserted, be shown as far as possible on the orographical maps.

(5) That all maps should be on natural scales bearing a simple proportion to each other, and on equal area projections. Mercator's projection might be used for currents of the air and ocean.

(6) That the colour scheme for contour intervals on continental maps should be kept as uniform as possible.

(7) That among the maps should be World-maps of the conditions mentioned above, and bathy-orographical maps of at least the two hemispheres, each continent, and the British Isles.

(8) One World-map on an equal area projection should show the British Empire.

(9) Only such names as are found in good school textbooks should be inserted.

(10) That the maps of the atlas should be sold separately.

(11) That provision should be made for the addition to the atlas of maps illustrative of the geography of the school district or of other special maps at a slightly increased cost.

With regard to atlases for Secondary Schools, the same principles may be applied; the number of maps will be greater, the details more numerous, but the selection will still be governed by educational and not by gazetteer ideals.

The remarks already made about maps showing relief for reference purposes apply to those for school purposes. The features will be more generalised. In such generalisations the character of coast, river, or land relief will be graphically

brought out. One test is to inspect the map of England and see how the southern rivers are related to the lines of height, and if these show clearly the steep and gentle slopes. Another is to examine if tablelands are correctly depicted—*e.g.* in Africa, the Deccan, West Australia—and if they are clearly to be distinguished from a plateau of ranges like the Great Basin or Tibet. A third test is to see if the heights of important passes and places are indicated in round numbers.

The expression of relief by the so-called "Relief maps" (at the best, photographs of models) is seldom satisfactory. There are several dangers attaching to their use, and as children can easily be taught to read the orographical maps just described, the Committee of the Geographical Association have decided not to recommend the employment of relief maps in general; these maps are accordingly not included in the following lists.

For many climatic and other maps it is well to show relief, and this can be shown only by hachures, or some kind of hill shading.

The climatic maps should include those showing air-pressure and winds (on one map), temperatures, and rainfall. These must be studied, not merely by means of annual averages, but in their seasonal variations. Both the winter and the summer temperatures of a place are necessary for a true idea of its climate. It makes all the difference if the rain falls uniformly throughout the year, or if it comes during one short season. The minimum requirements, therefore, are two maps (as a rule, summer and winter) for each matter of wind, temperature, and rainfall. For temperature and pressure, the April or October maps are better than those showing mean annual conditions—indeed, in the ideal school atlases four seasonal maps of each climatic element will be given.

The projection or network upon which maps are con-

structed needs attention. Owing to the fact that all maps are attempts at the impossible feat of accurately transferring the features of a spherical surface to a plane, they all suffer distortion in some particular. In the selection and use of maps the distortions must be considered. The problem is to get the minimum amount of distortion, and in the form least misleading for the special purpose of the map. Thus the Mercator net exaggerates the areas of all regions near the poles. This distortion is very serious for a map of the British Empire, yet the Mercator network is very frequently used. On the other hand, it is valuable in showing the direction of the winds, for which this network is specially appropriate, as true compass bearings are parallel to one another throughout the map. While the Mercator map is useful to navigators, its value in schools is very limited. It should seldom be used, and never without correction by some other net. For most school purposes an equal-area projection—*i.e.* one which does not exaggerate areas in any part—is the most desirable. For World-maps, the elliptical equal area (Mollweide) net, or, if hemispheres are used, the Lambert net is recommended. In the former, the distortion is most noticeable in the lengthening and narrowing of regions near the edge of the map, such as is seen in the case of New Zealand when Britain is near the central meridian. If a smaller area than the whole World is to be shown, the distortions are less serious in most networks, but it is still well to use an equal-area one.

WALL-MAPS

In teaching geography the collection of wall-maps is as important as the text-book or the atlas. Very few schools are adequately supplied with modern wall-maps. These should be somewhat similar to those in an atlas as detailed above.

So many wall-maps exist that a complete catalogue is impracticable. The common "political" maps have been omitted, since they are so numerous and for most school purposes unnecessary. A list has been made of all British and some foreign orographical wall-maps. Some series are issued with names, others have the names indicated faintly or by initial letters, and others have no names. These latter are in many respects the best, for the maps are much clearer and can be used either for instruction or for test purposes.* Pupils should be supplied with atlases or hand maps with the necessary names, or else be made to copy the essential names on outline maps.

Particulars of some slate-cloth outline maps are given, as these are very useful for filling in special features with white or coloured chalks.

LOCAL MAPS

The study of the immediate neighbourhood (home geography) is beginning to be systematically carried out in many schools, and should be in all schools. Personal examination of the home district is essential, and should be accompanied and extended by means of the local sheets of the Ordnance Survey Maps. The 1-inch map is the most generally useful; the 6-inch and 25-inch editions are necessary for careful study of a small piece of the neighbourhood; and, for a wider survey of the district, the Bartholomew $\frac{1}{2}$ -inch map coloured according to elevation, and the Ordnance Survey $\frac{1}{2}$ -inch map with contours, "layered" colouring, and hill shading, are excellent supplements. Further particulars of these maps are given below. It remains only to add that for teaching purposes many Ordnance Survey Maps can be obtained very cheaply if at least 200 are ordered at a time.

* See also Mr. Herbertson's article on "Geographical Maps," in the *Geographical Teacher*, Autumn Number, 1908.

In response to a memorial addressed in 1903 to the Board of Agriculture, the Board issued the following regulations. Any Public Educational Authority or recognized School may order special editions of sheets of the (a) 6 Inches to 1 Mile, (b) 1 Inch to 1 Mile, (c) 4 Miles to 1 Inch, (d) 10 Miles to 1 Inch maps, which will be printed on cheap but reasonably strong paper, and supplied at the following rates, provided that a guarantee is given that the maps will be used only for teaching purposes and will not be sold :

SHEETS UP TO 18 × 12 INCHES

COPIES.	ORDINARY 1-INCH SHEET.		SHEETS MADE UP OF TWO OR MORE ORDNANCE SURVEY SHEETS.	
	<i>Outline alone.</i>	<i>Outline and hill shading.</i>	<i>Outline alone.</i>	<i>Outline and hill shading.</i>
200	£ s. d. 1 5 0	£ s. d. 1 15 0	£ s. d. 2 5 0	£ s. d. 3 15 0
500	2 0 0	2 15 0	3 0 0	4 15 0
1000	3 0 0	4 0 0	4 0 0	6 0 0
5000	12 0 0	16 10 0	13 0 0	18 10 0

SHEETS UP TO 18 × 24 INCHES

	£ s. d.	£ s. d.	£ s. d.	£ s. d.
200	1 12 6	3 0 0	3 2 6	6 0 0
500	2 7 6	4 4 0	5 17 6	7 5 0
1000	3 7 6	5 12 0	4 17 6	8 12 0
5000	12 7 6	18 15 0	13 17 6	21 15 0

For 6-Inch Sheets with the water coloured the prices will be 5/- more than those given in the table for hill-shaded sheets.

Private Schools applying for special editions should send a copy of their prospectus. Special regulations may be drawn up for such schools. *All orders should be addressed to the Director-General, Ordnance Survey, Southampton.*

In connection with the home geography, the school should possess a geological map of the district ; the $\frac{1}{4}$ -Inch Index Map is most useful, but this should be supplemented by the 1-Inch sheet of the locality. For many districts Geological Survey Memoirs are issued at a moderate price and may be read with advantage.

OUTLINE MAPS

These are indispensable. The old system of making elaborate memory maps is giving place to the practice of making sketch-maps and filling in special features upon outline maps. The new method has the advantage of concentrating attention upon some particular point, without wasting time upon unnecessary details or upon the purposeless construction of mere framework.

ATLASES AND MAPS

REFERENCE ATLASES

Topographical and General Atlases

ATLASES OF THE WORLD

ANDREE, R., The Times Atlas. Nearly 200 maps, 13 x 12 in., with index. Price 27s. 6d. to 55s. net. Arnold.

A cheap and good reference atlas. A translation of Andree's "Hand-atlas" (Leipzig: Velhagen & Klasing), with additional maps of British Possessions.

BARTHOLOMEW, J. G., Twentieth Century Citizen's Atlas. 156 maps and plans, with tables and gazetteer. Extra crown folio. Price 21s. net. Newnes.

The best English reference atlas at the price; the British Empire maps are more detailed.

— **Handy Reference Atlas.** 160 maps and plans, with statistics. Crown 8vo. Price 7s. 6d. and 10s. 6d. Walker.

A small but concise and accurate reference atlas.

DEBES, E., Neuer Handatlas. 61 large and 124 inset maps, with index. Second edition. 65 x 45 cm., half leather.

Price 20M. Leipzig: Wagner & Debes.

A very clear and accurate German reference atlas. The maps of Central and Eastern Asia are among the best for configuration. The plates can be purchased separately.

JOHNSTON, A. KEITH, The Royal Atlas of Modern Geography. Containing 57 maps and indexes. Imperial folio. Price £6 6s.

This was once the standard atlas of its day. It is very clearly printed, and is brought up to date from time to time. The physical features require some revision.

— **The Handy Royal Atlas of Modern Geography.** Containing 52 maps and index. Imperial 4to. Price 25s. to 37s. 6d.

An adaptation of the larger work.

JOHNSTON, W. & A. K., The Victoria Regina Atlas. With 200 plates.

Price 21s. to 45s. Edinburgh and London : W. & A. K. Johnston.

Contains many place-names and plans of cities, with some physical as well as topographical maps.

KIEPERT, H., Grosser Hand Atlas. 45 maps.

Price 40M. Berlin : Reimer.

An excellent and reliable German atlas, with sheets of a large size.

PHILIP, G., Philip's New Handy General Atlas. 70 plates, with over 150 maps, plans, and diagrams, and index.

Price 21s. Philip.

A useful reference atlas, with detailed maps of British lands.

— **The Harmsworth Atlas.**

Price 40s. net.

RAVENSTEIN, E. G., Philip's Handy Volume Atlas of the World. 72 plates, with full letterpress to each. Atlas when shut measures 6 × 4 in.

Price 3s. 6d. Philip.

A very useful atlas for the pocket. The letterpress summaries are remarkably concise and good.

SCHRADER, Atlas de Géographie Moderne. Par F. Schrader, F. Prudent, et E. Anthoine. Contenant 64 cartes imprimées en couleurs, accompagnées d'un texte géographique, statistique et ethnographique et d'environ 600 cartes de détail, figures, diagrammes, etc.

Price 25 fr. Paris : Hachette.

This is a useful atlas, with a brief text, which contains many black and white maps showing climatic, demographic, and other conditions.

STANFORD, E., Atlas of Universal Geography.

Price £12. Stanford.

The most expensive atlas, with maps of varying value, some of the newer ones being excellent. For some of the smaller colonies this atlas gives larger-scale maps than are commonly found elsewhere.

— **Stanford's Octavo Atlas of Modern Geography.** 50 maps, 14 × 11 in. Atlas when shut measures 12 × 7½ in.

Price 25s. Stanford.

Handy, clear, and recently revised.

— **Stanford's Handy Atlas of Modern Geography.** 30 maps, 14 × 11 in. Atlas when shut measures 12 × 7½ in.

Price 10s. 6d. Stanford.

Clearly printed, and useful for place-names and political divisions.

STIELER, Stieler's Hand Atlas. 100 plates.

Price 38M. and 42M., according to binding. Gotha : Perthes.

This atlas is kept up to date, being subject to constant revision. It is the best and cheapest atlas in existence, noted for its accuracy, amount of detail, and fine workmanship. The selection of the maps is, of course, from the German standpoint. Separate sheets can be obtained.

In 1909 an edition, corrected to 1908, was published, with translations into English, French, Italian, and Spanish, of the titles, etc., of the maps. It is entitled in English "Stieler's Atlas of Modern Geography," and the price is £2. 6s.

VIDAL DE LA BLACHE, P., Atlas Général Vidal-Lablache, Historique et Géographique. 420 cartes et cartons en couleur. Price 30 fr. Paris: Colin.

Among the best atlases for general use; a number of the maps give information otherwise difficult to obtain. The topographical and historical sections can be bought separately. New edition 1909.

VIVIEN DE ST. MARTIN and SCHRADER, Atlas Universelle de Géographie. 90 plates, each plate 2 fr. 70 plates published. Paris: Hachette.

The most detailed French atlas, beautifully engraved. The plates are issued at irregular intervals, and the atlas is not yet completed.

Geological, Climatic, Biological, Anthropological, and Economic Maps

BARTHOLOMEW, J. G., BUCHAN, A., and HERBERTSON, A. J., Atlas of Meteorology. Demy folio. Over 400 maps, text, etc. Price £2 12s. 6d. Edinburgh: Bartholomew.

Shows the weather and climate of the World by an unrivalled series of maps of temperature, rainfall, winds, storms, clouds, and sunshine for all countries at all times of the year. Indispensable in the school library.

BARTHOLOMEW, J. G., Atlas of the World's Commerce. 176 plates of maps and diagrams, with texts and statistical tables. Price 10s. 6d. and 15s. net. Newnes.

By far the best work of its kind. It is authoritative, remarkably detailed, and embraces a wide variety of commercial and industrial information. Invaluable to teachers.

BERGHAUS, H., Berghaus' Physikalischer Atlas. 75 karten. Price 82M. Gotha: Perthes.

Daraus einzeln:	I. Geologie	18.40M.
	II. Hydrographie	14.80M.
	III. Meteorologie	16 M.
	IV. Erdmagnetismus	7.60M.
	V. Pflanzenverbreitung	11.20M.
	VI. Tierverbreitung	12.40M.
	VII. Völkerkunde	19.60M.

The finest complete physical atlas published. With the exception of the part dealing with Meteorology, which has been superseded by Bartholomew's "Atlas of Meteorology" (see below), it is unrivalled.

HABENICHT, Justus Perthes' See-Atlas. 24 kolorierte Karten, mit 127 Hafenplänen. Mit nautischen Notizen und Tabellen von Erwin Knipping. 7 x 4 in. Price 2.50M. Gotha: Perthes.

A very cheap and handy "pocket" atlas, useful in studying the oceans and ocean routes.

Special Areas

Oceans

DALLAS, W. L., and WALKER, G. T., **Meteorological Atlas of the Indian Seas and the North Indian Ocean.** Simla: Meteorological Department, 1908. Copies may be bought from J. Bartholomew & Co., Geographical Institute, Edinburgh, and the Superintendent of Government Printing, India, Calcutta.

Price R13 in India, and 17s. 6d. in the United Kingdom.

The 34 charts show pressure, wind, currents, and storm-tracks for each month, and typical storms north of 12° S.

DEUTSCHE SEEWARTE, **Atlantischer Ozean.** Ein Atlas von 39 Karten, die physikalischen Verhältnisse und die Verkehrs-Strasses darstellend. Second edition. 1902.

Price 25M. Hamburg: Friederichsen & Co.

— **Stiller Ozean.** Von 31 Karten. 1896. Price 25M.

— **Indischer Ozean.** Von 35 Karten. 1891. Price 18M.

These contain clear maps of the configuration, and physical conditions of atmosphere and ocean of these areas.

METEOROLOGICAL OFFICE **Pilot Charts of North Atlantic and Mediterranean and also of the Indian Ocean.**

Price 6d., monthly; 5s. for year.

Every school should possess a set of both of these charts for at least a year. They contain meteorological and oceanographical information for many lessons.

British Isles

BARTHOLOMEW, J. G., **Survey Atlas of England and Wales.** 84 plates of maps and plans, with text. Large demy folio.

Price 40s. Edinburgh: Bartholomew.

An excellent atlas, based upon the "half-inch-to-mile" contoured and coloured maps, with town plans and a series of physical and statistical maps. The best reference atlas for England and Wales.

— **Atlas of Scotland.** Price 40s. Edinburgh: Bartholomew.

This is among the best examples of a modern atlas on a large scale for a small area. It is remarkable for its fine physical maps, on the scale of half an inch to the mile.

WOODWARD, H. B., **Geological Atlas of Great Britain and Ireland.** 36 maps and 16 plates of fossils, with sections, views, and descriptive text. Price 12s. 6d. net. Stanford.

Especially useful when travelling in the British Isles.

British Empire

BISIKER, W., *The British Empire (and Japan): its Features, Resources, Commerce, Industries, and Scenery, together with the Physical and Economic Conditions of the World.* A modern atlas having 213 maps and 272 illustrations, numerous tables and diagrams, with text concerning the illustrations, commercial products, statistics, histories, etc.

Price 16s. and 21s. Geographical Publishing Co.

This is a useful and graphic atlas. It shows physical features in "photo-relief." It also contains many maps of climatic and other conditions not easily obtained elsewhere. Statistical notes are added. Characteristic views of different countries are also reproduced.

JOHNSTON, W. & A. K., *The M.P. Atlas.* 41 plates, showing the commercial and political interests of the British Empire.

Price 25s. Edinburgh: W. & A. K. Johnston.

A selection from the same publishers' "Royal Atlas," supplemented by a number of specially drawn physical and commercial maps. Good maps of the British Isles and ocean depths.

Canada

ATLAS of Canada. Published by the Department of the Interior, Ottawa. 1907.

Price £1 2s. 6d.

Maps, isothermal charts, town plans, statistical diagrams of population, agriculture, commerce, manufacture, finance, railways, and fisheries. Indispensable for the study of the geography of Canada.

Finland

GEBHARD, HANNES, *Atlas de Statistique Sociale sur les communes rurales de Finlande en 1901.* Vol. XXIV. Pp. 1-32. 1907-8. Helsingfors: Société de Géographie de Finlande, 1908.

This is a valuable atlas. The text is in Finnish.

German Empire

LEPSIUS, *Geologische Karte des Deutschen Reiches.* 1:500,000. 29 sheets.

Price 46M., or in single sheets 2M. each. Gotha: Perthes.

VOGEL, *Karte des Deutschen Reiches.* 1:500,000. 27 sheets.

Price in sheets £2 14s. 6d. Gotha: Perthes.

For those studying the geography or history of the German Empire in detail, these two atlases are indispensable. The topographical atlas shows configuration by hachuring, and not by contour lines.

India

ATLAS. Being Vol. XXVI. of "The Imperial Gazetteer of India." New edition. 64 plates and index.

Price of Atlas, 15s. Oxford: Clarendon Press, 1909.

A very complete and excellent hand atlas, containing maps showing physical, climatic, demographic, and topographical conditions, and plans of the chief cities. Indispensable.

ELIOT, SIR J., Climatological Atlas of India. Published by the Indian Government under the direction of Sir John Eliot. Issued by the Indian Meteorological Department. May be obtained through Messrs. Bartholomew, Edinburgh, for 36s., or in India for R27.

The most complete meteorological atlas of a single country yet published. It is especially useful for a study of the monsoon type of climate.

STATISTICAL Atlas of India. Printed by the Superintendent of the Government Printing, India. May be obtained for 5s. of Stanford, London, and for R5 from the Government publishers in India, at Calcutta.

The maps, now somewhat out of date, are very diagrammatic, and are accompanied by a useful text.

U.S.A.

STATISTICAL Atlas of U.S.A. Accompanying the Reports of the Twelfth Census of the United States of America in 1900.

Historical Atlases—mainly of Europe

DROYSEN, Allgemeiner historische Handatlas.

Price 25M. Leipzig: Velhagen & Klasing.

A very clear atlas, with introductory text.

KIEPERT, Formae Orbis Antiqui. 36 maps.

Price 3M. a sheet. Berlin: Reimer.

A large-scale classical atlas.

LABBERTON, R. H. Historical Atlas and General History.

Price 15s. Macmillan.

A useful historical atlas for the teacher.

POOLE, R. LANE, Historical Atlas. 90 Maps, 15 × 11½ in., with letterpress to each. Maps by W. and A. K. Johnston. Oxford University Press. Price £5 15s. 6d. Also in sets: Set of British Empire maps, 30s. net. Each map, with its letterpress, 1s. 6d.

The standard English atlas of modern history, with notes of scholarly accuracy and value. Many of the maps are not very clearly reproduced, and are on too small a scale.

SCHRADER, F., Atlas de Géographie Historique. Par une Réunion de Professeurs et de Savants—sous la direction géographique de F. Schrader.

Price 35 fr. Paris and London: Hachette.

Very clear, with good descriptive letterpress. Companion volume to the "Atlas of Modern Geography." It also contains useful summaries illustrated by black and white maps.

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6 in. to 1 mile.

For the whole of the United Kingdom. The 6-in. map is arranged by counties, which are divided into sheets, and these again into quarter sheets. The price of a full sheet is 2s. or 2s. 6d., and of a quarter sheet 1s. The 6-in. maps show all houses and fields, and generally the same detail as the 25-in. maps. Such features as woods, rough pasture, rocks, cliffs, and foreshore are shown in character. Contours are shown.

25 in. to 1 mile, nearly. (Accurately 1 : 2500.)

For Great Britain and part of Ireland. The sheets show one-sixteenth the area of the 6-in. maps. Price 3s. They show every road, field, fence, wood, stream, house—in short, every feature of the country. Every enclosure has its area given, and numerous levels are marked.

Town Plans for certain towns on scales of 5 ft. and 10 ft. to a mile have been published at 2s. 6d. per sheet uncoloured.

NOTES.—The prices quoted above are those of the cheapest form of the maps. Other forms, e.g. dissected and folded in cover, can often be obtained at rather higher prices.

In many of the issues several sheets are combined to form larger maps, and mounted in various styles.

Indexes to each series showing the position, number, and extent of the sheets are published, at the price of 2d. for each series, and in most case characteristic sheets at the price of 6d. each.

A "Summary of the Publications of the Ordnance Survey" with small scale indexes may be obtained gratis on application to the Director-General, Ordnance Survey, Southampton.

Particulars may be obtained also from the London Agents, Edward Stanford, Long Acre, W.C., where maps to suit particular needs may be selected. The Edinburgh Agents are Messrs. W. & A. K. Johnston, 2, St. Andrew Street; and the Dublin Agents, Messrs. Hodges, Figgis & Co., 104, Grafton Street.

Quantities of maps for school use (see particulars in text above) must be obtained directly from the Director-General.

(b) **British—Orographical and Touring**

BARTHOLOMEW, J., & CO. (EDINBURGH):

"Half-Inch to Mile" Maps. For England, Wales, and Scotland. Reduced from Ordnance Survey, land coloured according to elevation, chief roads in brown. Each sheet about 20 x 30 in. Price, on paper, 1s.; cloth, 2s.; cloth dissected, 2s. 6d.

"Quarter-Inch to a Mile" Map of Scotland. Contoured. Layer colouring. Roads in brown. Price, on paper, 1s.; cloth, 2s.

Contoured Touring Maps. England and Wales. Scale 13 miles to 1 in. Scotland. Scale 10 miles to 1 in. Each, price 1s. in paper; on cloth, 2s.

Reduced Ordnance Survey of Ireland. Scale 4 miles to 1 in. In 7 sheets. Price per sheet, paper 1s.; cloth, 2s.

These maps can occasionally be purchased without the black printing. They form very effective wall maps when the rivers are drawn in in blue.

JOHNSTON, W. & A. K. (EDINBURGH):

Bathy-Orographical Map of British Isles. Size 20 x 25 in. Scale 30 miles to 1 in. Coloured between the contour lines. Price, as sheet, 3s.; on rollers, 4s.

Physical Test Maps. Coloured in shades of brown and green according to elevation, and showing rivers and towns without names. A series of 16 maps, each about 10 x 8 in. Price 1d. each net.

PHILIP, G. (LONDON):

Orographical Map 1: 200,000.

"Diagram" Series of Hand Maps. Coloured in shades of green and brown according to elevation; without names. A series of 30 maps, each 12½ x 12 in. Price 1d. each; set bound in cloth, 3s. net. For some of these the physical names can be obtained on tracing paper, which can be placed over the map.

New Series of Orographical Maps. Size 26 x 22 in. Price, as sheet, 3s. 6d.; on cloth and rollers, 5s. The series include the following: Europe, British Isles, Africa, North America, South America.

(c) **Admiralty Charts, Botanical, Climatic, and Geological**

Admiralty Charts. These are of very varied sizes and scales. A catalogue is published containing index maps, and may be obtained from J. D. Potter, 145, Minories, E.C.

BARTHOLOMEW, J., & CO. (EDINBURGH):

Botanical Survey of Scotland. By W. G. Smith and Robert Smith. Scale 2 miles to 1 in. Price 2s. each sheet.

- Sheet 1. Edinburgh District.
- „ 2. North Perthshire.
- „ 3. Forfar and Fife.

Geographical Distribution of Vegetation in Yorkshire. By W. G. Smith and C. E. Moss. Uniform in scale and price with the above.

- Sheet 1. Harrogate and Skipton District.
- „ 2. Leeds and Halifax District.

JOHNSTON, W. & A. K. (EDINBURGH):

Rainfall Map of British Isles. Based on averages for 1896 to 1905. Size 20×25 in. Scale 30 miles to 1 in. Price, as sheet, 3s.; on rollers, 4s.

STANFORD, E. (LONDON):

Geological Map of London and Environs, showing superficial deposits. By J. B. Jordan. Size 24×25 in. Scale 1 mile to 1 in. Prices, as sheet, 5s. net; folded in case, 5s. net; mounted in case, 7s. 6d. net; on rollers and varnished, 9s. net.

GEOLOGICAL SURVEY:

One-Inch Geological Map of England and Wales. The “original” edition, on the scale of 1 in. to 1 mile, is complete in 110 divisions. Fifty-two of these divisions are printed in single sheets, size 40×27 in., at prices varying from 4s. to 8s. 6d.; the remaining divisions are in quarter sheets at 1s. 6d. each quarter. The New Edition is issued in sheets, 18×12 in. at 1s. 6d. and 3s. each sheet, and has the advantage of being comparable with the 1-in. ordnance sheets.

Two editions are generally published—the Solid and Drift. The “Solid” maps show the distribution of the solid rock formations; the “Drift” maps show the superficial deposits overlying them, the rock formations being coloured only where there is no drift. In parts of the E. of England, where the superficial deposits are thick and widely spread, only the Drift Edition is published. From near Scarborough southward, over the E. and S.E. of England, the Drift Edition should be ordered, this being the most useful for questions relating to agriculture, water-supply, etc.

Geological Survey Memoirs, explanatory of certain regions, are published at prices from 6d. to 21s.

Geological Sections are also to be obtained at various prices.

Geological Index Map of England and Wales. Scale 4 miles to 1 in. In 15 sheets. Price 2s. 6d. each. New Edition.

Geological Map of the British Isles. Scale 25 miles to 1 in. Price in sheet 2s., folded in case 6s., on rollers and varnished 8s.

(NOTE.—For use in schools, this map may be obtained in quantities of not less than 20 copies at the price of 1s. per copy coloured, or 6d. uncoloured. The regulations as to sale are identical with those relating to the sale of Ordnance maps for school use. See above.)

Details of the issues of Geological Survey Maps may be obtained from the London Agents, Edward Stanford, Long Acre, W.C.

(d) General and Outline

BLACK, A & C. (LONDON):

Synthetical Maps. By W. R. Taylor. 1d. each. About 40 maps, each three-fold, showing (1) physical features, (2) industries and products, (3) test. With notes.

JOHNSTON, W. & A. K. (Edinburgh):

Penny Maps. Size $14\frac{1}{2} \times 11\frac{1}{2}$ in. In four editions.

1. Fully printed and coloured.
2. Projections only.
3. Outline, with outline and projection.
4. Test, fully printed except names.

Penny Maps of Classical Geography. Size $14\frac{1}{2} \times 11\frac{1}{2}$ in. Editions 1, 2, and 3, as above.

PHILIP, G. (LONDON):

Hughes' Series of Physical and Political Maps. Size 21×17 in. 25 maps in three styles.

1. Coloured, in sheets, 1s. each; on cardboard and varnished, 2s. each.
2. Physical Outline Maps, on drawing paper, 6d. each.
3. Blank Projections, on drawing paper, 6d. each.

Large Penny Maps. Size 13×11 in. In four editions.

1. Fully printed and coloured.
2. Physical Outline Maps, uncoloured without names.
3. Coastlines only.
4. Blank projections.

Editions 2, 3, and 4 are on drawing paper.

Halfpenny Maps. Size 10×8 in. Editions as above.

"Diagram" Series of Outline Maps. Size $10 \times 9\frac{1}{2}$ in. 1s. 2d. each. 24 maps showing coastline, rivers, and towns.

RELFE BROS. (LONDON):

"Ronnenne" Outline Maps. Size $13\frac{1}{2} \times 10\frac{1}{2}$ in. Price 4s. per dozen net. A series of 12 outline maps on a white material from which lead-pencil marking can be erased with a damp sponge.

STANFORD, E. (LONDON):

Autograph Hand Maps. Price 1d. each net. A series of about 30 outline maps, printed in dull brown, with rivers and hill-shading inserted.

Mollweide Projection Hand Maps (Equal Area):

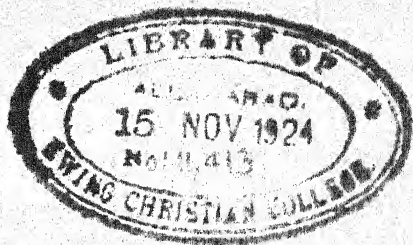
1. World, coloured to show British Possessions. Size 22×25 in. Price 6d. net. in sheet or folded in cover.
2. World, outline. Size 30×20 in. Price 6d. net.
3. World, outline, on smaller scales at various prices.
4. Atlantic Ocean, outline. Size 19×18 in. Price 1d. net.

Series of Outline Maps. Size 17×14 in. Price 6d. each. A series of about 30 maps, fully printed, but without names or colour, on drawing paper. Also a "Projection" Series uniform in size and price, but with lines of latitude and longitude only.

Oxford Series of Outline Maps. Size 17×14 in. Price 3d. each. With lines of latitude and longitude and coastline.

Penny Outline Maps. Size 15×12 in.

N.B.—Notes on maps of different countries will be found under the countries.



CHAPTER III

GEOGRAPHICAL APPARATUS AND PICTURES

AS the realities with which geography deals can be inspected by pupils to a very limited extent, most of their study must be based upon records of the observations of others. These records may be in the form of maps, which have been discussed in the last chapter, in descriptions such as are found in the books which form the subject of most of the chapters, and in statistical publications. Other aids are globes, which express the result of observations regarding the Earth as a whole; tellurians and similar devices for showing the movements and relations of the Earth and other members of the Solar System; models which are essentially orographical maps in three dimensions; pictures in some form; and apparatus for aiding and recording the pupil's personal observations.

Particulars of these are given below. There are other aids which may occasionally be useful, to which reference cannot be made in the appended lists. Such are specimens of various kinds, viz. collections of rock-materials and minerals, productions of foreign lands, the implements or the dress of peoples, objects showing the stages of manufacture of commodities. Museums, geographical, botanical, and zoological gardens, parks, greenhouses, fruiterers' shop windows, etc., should often be inspected where this is possible. These aids have to be utilised as special opportunities occur.

GLOBES

Globes have fallen into undeserved and most regrettable neglect. They are found in most schools, but too often hidden away in cupboards, or mounted on high shelves, or gracing landings on the stairs. Their use should be revived and extended. Small globes of 4 or 6 inches diameter may be purchased for a few shillings, and they ought to be placed in the hands of every scholar. A neat globe would be a most appropriate prize, far more useful than many books which are manufactured only to be presented and thrown aside. In every schoolroom three globes are very useful. First, a globe without anything inscribed upon it, 9 to 10 inches in diameter, so that it can be easily held in the hand (this globe is needed (*a*) to eradicate the idea that a globe must have lines upon it, (*b*) to show that the rotation decides the poles and hence the circles of latitude and longitude, (*c*) to show that only two circles are needed to determine the position of any point on the surface); second, a terrestrial globe of at least 13 or, if possible, 18 inches diameter, coloured physically; and third, a globe of similar dimensions, covered with a slate surface prepared for writing, with lines of latitude and longitude 15° apart, and the outlines of the continents indicated, but without names. A fine old-fashioned globe, originally priced at £10 or £15, may occasionally be purchased for 10s. or less second hand. If it is well mounted it is as good as a new one, for the globe is used for working simple geographical problems, not for the purposes of a reference atlas. Valuable demonstrations of distances and directions may be made by measuring on a globe and on a Mercator chart of the same equatorial scale. It is remarkable how the apparent anomaly of a great-circle course being the shortest disappears when a globe is brought into use.

Globes on which the irregularities of the Earth's surface are represented in highly exaggerated relief are not to be recommended. A hole may be made with a pin in an 18-inch globe to represent on a true scale the maximum height of land and depth of sea. The height and depth would be $\frac{1}{80}$ of an inch each, or about the thickness of the paper on which the gores of the globe are printed.

Globes should not show much detail. This should be left for large scale maps.

A collection of globes indicating physical features, geology, climatic conditions, vegetation, etc., is invaluable in teaching.

TELLURIANS

These are useful. A teacher, however, can manage with a little ingenuity to get the same effects with an ordinary globe for the Earth, a smaller ball for the Moon, and for the Sun a lamp (preferably in a darkened room).

MAP PROJECTIONS

Mr. Herbertson has devised a simple apparatus for showing the perspective projections graphically.

RELIEF MODELS

These are good if they can be made accurately, but this condition can only be obtained if the area shown is of small extent. If the area shown is large, the horizontal scale must be small, and so the vertical scale has to be much exaggerated for the heights to be clearly shown. For the study of the district around the school a relief-model is particularly useful.* In some cases the models are constructed by the teachers or by pupils themselves, either with sand, clay, or sheets of cardboard cut according

* See article by Mr. McMichael on "Relief Models by Serial Sections." *Geographical Teacher*, Spring, 1909.

to the contours shown on the Ordnance map and superimposed one upon the other. The proper place of models in a course is in the earlier stages—in later stages, when maps can be read with facility, models are less necessary.

PICTURES

Pictures are absolutely necessary in lessons for younger children, and should be used throughout the course. It is difficult for an adult to appreciate the inability of a child to picture distant scenes with any accuracy; very frequently the only mental images possible to a child are those of his everyday environment. The teacher has an abundance of mental pictures gathered from a multitude of sources, and these are called up in his mind in the course of his own teaching and the study of the text-book. This is not the case with the child, and in the absence of actual observation pictures are essential. They should be as numerous as possible in order to give completeness to the faculty of visualising from maps, etc. Hence not merely wall pictures, but those in text-books and in the illustrated papers should be pressed into the service. Intensive as well as extensive study of views should be made: some pictures, carefully chosen, should be examined with minute care, for a good view may teach as much as a page of letterpress. Above all, there should be a close correlation between pictures, maps, and verbal descriptions, in order that the concrete facts may be realised through the symbols of the map and the words of the book.

Stereographs give a better idea of scenes and scenery than ordinary pictures; the main objection to their extended use is that of cost. A fuller examination of their use and advantages was made by the writer in the *Geographical Teacher* for June 1906, where particulars will be found as to expense. Catalogues may be obtained from the fol-

lowing publishers: The Fine Art Publishing Company, 46, Rydevale Road, S.E.; The H. C. White Company, 110, Strand, W.C.; The Keystone View Company, 89, Chancery Lane, W.C.; and Messrs. Underwood & Underwood, 104, High Holborn, W.C.

The lantern is very often a most convenient means, not only of exhibiting pictures, maps, and diagrams in connection with the geography, but for supplementing the teaching of other school subjects. Indeed, lanterns have so many uses, and are therefore made by such a number of makers and in such a variety of forms, that it is impossible to give particulars either of firms or their goods. Two books which give many useful hints are *Optical Projections: a Treatise on the Optical Lantern*, by Lewis Wright (6s.), and *The Book of the Lantern: a Practical Guide*, by T. C. Hepworth (3s. 6d.).

The remarks on pictures apply to those shown by means of a lantern. To aid teachers in obtaining really educational views correlated in such a way as to be of the greatest use in the ordinary geographical course, a collection of slides, arranged in sets with specially written explanatory notes, has been made by the Geographical Association for hire or purchase by its members at the lowest possible rates. Particulars may be obtained from Mr. J. F. Unstead, Hon. Correspondence Secretary, 39, Greenholm Road, Eltham. As regards slides exhibiting maps and diagrams, special attention may be drawn to those published by the Diagram Company, of which details are given below.

APPARATUS FOR PRACTICAL WORK

The practical work in geography which requires special apparatus is connected with simple surveying and map-making, and with observations of the weather. Practical work of this kind is useful from several points of view, but it must be supplementary to the other work and of a

simple character. For this reason, and also on the score of expense, the instruments must be simple and cheap, as far as this is possible with reliability. It is essential that the tripod-stand of plane tables should be very strong and firm. Many firms of scientific instrument makers produce very good apparatus. Those mentioned here are those which usually supply schools, but while over-elaborate apparatus is unnecessary, the lowest priced articles are not always reliable. Cheap meteorological instruments should not be purchased.

GEOGRAPHICAL APPARATUS AND PICTURES

(a) Globes, Etc.

ARNOLD, E. J. (LEEDS):

"A.L." Tellurian, to show relations of Earth and Sun.
Price 17s. 6d.

"A.L." Selenium, to show relations of Earth, Sun, and Moon.
Price 30s. net.

BACON, G. W. (LONDON):

"Excelsior" School Globes. Net prices quoted.

6½-inch diameter	Price 5s. 6d.
9 "	10s. 6d.
9 " with semi-meridian	12s. 6d.
12 " with graduated semi-meridian	21s.
12 " graduated horizon, double meridian, and adjustable axis	30s.

JOHNSTON, RUDDIMAN (LONDON):

Globes. The various prices for globes of the same size and style depend upon the mounting—*e.g.* character of stand and meridian.

Smooth, 4-inch diameter	Price 1s. 6d.
" 6 "	5s. 6d. to 9s.
" 8 "	7s. 3d. to 8s. 6d. net
" 12 "	14s. 6d. to 40s. net
Slate, 10 "	23s. to 50s.
" 14 "	35s. to 70s.

Tellurian, to show relations of Earth, Sun, and Moon, with 6-inch globe. Price £4.

JOHNSTON, W. & A. K. (EDINBURGH):

Terrestrial Globes. Politically coloured; the 8-inch, 12-inch, and 18-inch sizes show also ocean currents and isotherms for January and July. Prices vary according to mounting.

1½-inch diameter	Price 3s.
3 "	5s. and 8s.
6 "	12s. 6d. and 21s.
8 "	16s. 6d.
12 "	£1 1s. to £4 14s. 6d.
18 "	£5 5s. to £7 17s. 6d.
Slate, 12-inch	17s. 6d. net.

PHILIP, G. (LONDON):

School Globes. Prices quoted are net.

Smooth, 4-inch diameter. Price 1s. 6d. and 2s.

- | | | | |
|---|----|---|--|
| " | 6 | " | Price 5s. |
| " | 8 | " | Price 7s. 6d. |
| " | 9 | " | Price 10s. 6d. to 21s. |
| " | 14 | " | coloured either politically or orographically.
Price 17s. 6d. to £3. |
| " | 19 | " | coloured either politically or orographically.
Price £2 2s. to £4 4s. |

Slate: (asterisk denotes that issues showing outlines of countries and latitude and longitude have an extra cost of 9s. 6d. for 13-inch, 15s. for 20-inch, and 22s. 6d. for 26-inch globes; unless specially indicated the globes are plain)

- | | | |
|---|---------|--|
| " | 4-inch. | Price 1s. 6d. |
| " | 8 | " Price 7s. |
| " | 12 | " Price 17s. 6d. |
| " | 12 | " with latitude and longitude. Price 21s. |
| " | 12 | " with outlines of countries. Price 25s. |
| " | 12 | " with land areas coloured white. Price 22s. 6d. |
| " | *13 | " Price £1 2s. to £1 12s. 6d. |
| " | *20 | " Price £3 to £3 15s. |
| " | *26 | " Price £6 10s. |

Day by Day Tellurian and Calendar. Illustrating the elliptical orbit of the Earth round the Sun, the Seasons, Day and Night, etc. Size 48 × 55 inches. Price 30s. net.

English Tellurian, to show relations between Sun, Moon, and Earth. Price £2 10s. net.

New School Tellurian. Price £1 11s. 6d. net.

New Tellurian (more elaborate). Price £6 6s. net.

Standard Time Dials. By R. A. Gregory. To show relation between longitude and time all over the world. Size 16½ × 19½ inches. Price 3s. 6d. net.

Graphic Map Projection Apparatus. By A. J. Herbertson. To show how the network of meridians and parallels on maps of various projections is derived from that on the globe. Price 21s. net.

(b) Relief Models, Etc.

GINN & CO. (LONDON):

Harvard Geographical Models. Designed by W. M. Davis.

1. Mountains bordering the Sea.
2. Narrow Coastal Plain.
3. Embayed Mountains.

Size 25 × 19 inches. Price, set of three, £4 net.

PHILIP, G. (LONDON):

Nature Series of Relief Models. Showing various districts of England and Wales, coloured according to surface features. Horizontal scale half-inch to mile; vertical scale four times the horizontal. Price from 15s. net to 20s. net.

Model of Mount Vesuvius. Coloured to show surface and vegetation features. Scale 1 : 20,000. Size 31 × 33 inches. Price £3 net.

Model of Aletsch Glacier. Scale 1 : 50,000. Size 19 × 32 inches. Price £3 net.

(c) Simple Instruments for Observations and Surveying

BAIRD, A. H. (EDINBURGH):

Barometer, Fitzroy's. Price 17s. 6d.

Hygrometer, Daniel's. Price 12s.

" Mason's, wet and dry. Boxwood scale. Price 8s.
" " " " Zinc " Price 10s.

Inclinometer. Mahogany scale, metal bob. Price 3s.

Levelling Table, with inset circular spirit level, on tripod stand. Price 17s. 6d. (A stronger tripod stand than the one usually supplied should be ordered. This may increase the price.)

Magnetic Needle, in aluminium box with ruling edge. Price 8s. 6d.

Rain Gauge, Snowdon's. Price 21s.

Ranging Poles, per pair. Price 9s. 6d. **Laths, per doz.** 8d.

Sighting Rule, with pivoting eye. Price 9s. 6d.

Tape Line, 100 feet. Price 11s.

Thermometer, Sixe's. Boxwood scale. Price 8s. 6d.

" " Zinc scale. Price 10s. 6d.

" Maximum. Price 5s. 6d.

" Minimum. Price 3s. 6d.

PHILIP HARRIS & CO. (BIRMINGHAM):

Artificial Horizon. Price 5s.

Barometer, Aneroid. Prices £1 3s. to £2 9s.

" Fortin's Standard. Bore 0.5 inch. Price £7 10s.

" "Student," Fortin Principle. Bore 0.3 inch. Price £3 7s. 6d.

Chain for Surveying ; 33 feet, price 5s. 6d. ; 66 feet, price 8s. 6d.

Charts, for barometer, thermometer, wet and dry bulb, rainfall. Price, per doz. sheets, 6d.

Charts for Weather Observations. Bound set of 12 monthly charts. Price 4s.

Clinometer and Sight Rule combined. Price 13s. 6d.

Hygrometer. Wet and dry bulb. Price 8s.

Plane Table, on tripod stand. Price 16s.

Prismatic Compass. Prices £1 6s. 6d. to £2 3s. 6d.

Protractors. Prices from 8d.

Rain Gauge. 5-inch diameter funnel. Price 13s.

Sextant. Price 15s.

Sight Rule. Price 7s. 6d.

Spirit Level. Price 6d. to 1s. 6d.

Surveying Rods. Set of six. Price 12s. and 16s.

Tape Measure. 33 feet, price 4s. ; 66 feet, price 5s. 3d.

Thermometer-Maximum. Prices 4s. 6d. and 8s.

Thermometer-Minimum. Prices 2s. 6d. and 7s. 6d.

STANFORD, E. (LONDON):

Triangular Scale, for finding the scale of any map, engraved on transparent celluloid. Size 10 x 12 inches. Price 2s. 6d. net.

(d) Pictures, Diagrams, and Slides

BACON, G. W. (LONDON):

Astronomical Diagrams. A series of diagrams of astronomical geography and the solar system. Each 22 x 30 inches. Price, on cloth, 1s. 6d. ; on rollers, varnished, 3s. each.

New Astronomical Chart. Embracing several of above diagrams. Size 30 x 40 inches. Price 7s. 6d.

Picturesque Geography. 12 pictures from nature illustrating geographical terms. Size 20 x 14 inches. On separate rollers and varnished, 1s. 6d. each ; mounted on one sheet, 18s. ; on boards and varnished, 16s. |

BLACK, A. & C. (LONDON):

Geographical Pictures from Photographs. Size 6½ x 4½ inches. Price 6d. per packet of 6, on cards.

Arranged in sets illustrating various phenomena, with explanatory descriptions and questions.

COLIN & CIE. (PARIS):

Album Géographique. Par MM. Dubois et Guy. Tome I.: Aspects généraux de la Nature. Tome II.: Les Régions tropicales. Tome III.: Les Régions tempérées. Tome IV.: Les Colonies françaises. Tome V.: La France. Price (per vol.) 15 fr. (stitched), 18 fr. (bound).

The geography is taught by well-selected and systematically arranged views, with general explanations and statements introducing each chapter, and special descriptions with each illustration. Suitable for a school library.

DIAGRAM COMPANY (WEST BARNES LANE, NEW MALDEN, SURREY):

Lantern Slides. A series of some hundreds of slides of maps of the world and its various regions. The maps deal with all aspects of geography—*e.g.* orographical, river basins, climatic conditions, minerals, industries, means of communication, historical developments, racial characteristics, and political divisions; also a series of selected and typical views. Prices of map slides 2s. and 3s. Special terms for hire and purchase to members of the Geographical Association.

NELSON, T. (LONDON):

Pictures of the Empire. A series of 14 coloured pictures, each 28 x 21 inches. Prices from 1s. net unmounted to 7s. 6d. framed.

PHILIP, G. (LONDON):

Geographical Pictures. Edited by P. H. L'Estrange. Series I. illustrates land forms, climate, and vegetation. 24 photographs on 20 plates, 25 x 20 inches. Prices (net) 1s. 3d. each plate, 21s. the set.

Very clear and well produced.

Geographical Illustrations. A series of 43 coloured pictures of foreign scenes, chiefly of actual and well-known places. Size 36 x 28 inches. Price, on sheets, 2s. 6d.; on cloth and rollers, 3s. 6d. A few double plates, 70 x 27 inches. Price 6s. 6d.

Supplementary series of English scenes. Size 35 x 26 inches. Price, on sheets, 2s.; on cloth and rollers, 3s. 6d.

Geographical Chart for Junior Classes. Showing relations between pictures, plans, and maps. Size 5 ft. 8 in. x 4 ft. 6 in. Price, on cloth and rollers, or as wall-atlas of four separate sheets. Price 14s.

"Types of Nations" Series. Six pictures of groups of people, showing them in scenes characteristic of their respective countries. Size 35 x 30 inches. Price, on cloth and rollers, 3s. 6d. each.

PHOTOCHROM COMPANY (LONDON):

A large number of coloured photographs, the larger ones being very useful for class purposes.

CHAPTER IV

GEOGRAPHICAL NOVELS

THE educational value of historical novels is widely recognised, and several guides to them have been compiled. The use made of geographical novels is much less, and no list has yet been prepared. There are many good works of fiction which are distinctly geographical, beyond the multitude which have "local colour." There are some, of course, whose accuracy is not above suspicion; but others are both trustworthy and full in their treatment of scenes, places, and peoples. Assuming that the geography of novels and tales is accurate, a strong case may be made out for their use by students, and more especially by teachers.

An ordinary text-book is limited to concise and generally meagre statements, and it is very difficult to create a mental picture as a result of these statements; yet in the creation of such a mental picture lies the secret of real and lasting instruction. The value of ordinary pictures has been mentioned in the preceding chapter. We have now to draw attention to the word-pictures to be found in tales. The scenes are frequently described at some length, and, better still, they may form an integral part of the narrative, as when the peculiarities of the district or of the people influence the course of the story. This is an important part of the value of a geographical novel: it may show by actual examples that working out of the various forces and inter-action of the various factors

that is of the essence of geography. A little careful search through good novels would furnish examples of most of the important phenomena and their relations.

For a vivid picture of coastal navigation in waters beset by sandbanks and overhung by fog, Childers's *The Riddle of the Sands* surpasses in clearness as well as in interest any treatise on marine surveying.

A perfect description of a cyclone in the West Indies is given in Mrs. Gertrude Atherton's *The Conqueror*. Its course, the torrential rains and the terrific violence of the winds, their sudden cessation in the "eye" of the storm and equally sudden renewal in an opposite direction, the effect of the cyclone on the vegetation and the people—all are described in such a way that the thing seems real and its impression endures in the mind. Having once realised the phenomenon by an aid of this kind, one can understand and fully appreciate the diagrams and statistics given in books on physical geography. Similarly, plant and animal life, of which only the most characteristic and outstanding features can be mentioned in the ordinary textbook, gain in interest and reality when their acquaintance is made through Rudyard Kipling's *Jungle Books* or W. H. Hudson's *Green Mansions*.

But perhaps it is in the human geography that the novels excel; they can give so much insight into the workings of the minds of other peoples, and they can so well describe different ways of living. The Indian novels of Mrs. Flora Annie Steel are of exceptional interest and value. Here, again, the work of Kipling occurs to mind; his *Kim* shows us something of the people of India that one can get only in an intimate account of their lives, for it enables one to appreciate the peculiarities of the natives' habits of thought, their great diversities due to the mixture of races, and the consequent problems that complicate political administration and economic changes. To take

another example in a very different region, there is no important aspect of Alaska and the life there that is not easily and yet most forcibly impressed upon the mind by the reading of *The Magnetic North*, by Miss Elizabeth Robins. In this book the effect of the long, dreary struggles in the cold of the winter upon the minds and temperaments of the southerners exposed to it is admirably brought out; it reminds one of the contrary, yet in some ways strangely analogous, influence of a tropical environment upon the white traders, as described by Joseph Conrad and Louis Becke.

As regards tales written for boys, it would seem that their value lies partly in giving vivid pictures and so imparting information, but mainly in interesting the readers in strange scenes and peoples; and the teacher may well be thankful if that is done, for a keen interest on the part of the pupils lightens the work considerably. The same effect will be gained by reading passages from good books to the class.

Many historical novels are at the same time geographical novels, and more than one index to historical novels mentions the scene in which the story is laid. Teachers are therefore referred to these, while information regarding some others is given below. It is, however, but the nucleus of a list, based on the reading of one or two members of the Geographical Association. The writer would be grateful if others who have appreciated books not here mentioned would send him particulars, that a more complete list may be compiled. The following books will be found useful to teachers, but they are not necessarily suitable for their pupils.

Passing at once to the continent of Europe, one may cite first the works of H. Seton Merriman, for his tales contain much that is of value from this point of view. *The Isle of Unrest* deals with Corsica, *In Kedar's Tents*

and *The Velvet Glove* with Spain, *The Vultures* with Poland, *The Sowers* and *Barlasch of the Guard* with Russia, and part of the scene of *Roden's Corner* is in Holland. F. Marion Crawford is also good; a number of his tales are concerned with Italy and the Italians, while *Corleone* gives a good idea of several aspects of Sicily, and *Paul Patoff* takes one to Constantinople and the Bosphorus. Miss Beatrice Harraden describes life at a health resort in the Alps in *Ships that Pass in the Night*, and life in Norway in *Katherine Frensham*. Sir Gilbert Parker gives an excellent idea of the Channel Islands in *The Battle of the Strong*. In addition to these English writers, there are many foreign novelists who have described their own lands, and whose books have been translated into English: for example, Tolstoi gives pictures of Russia, Maurus Jokai of the regions in and around the Carpathians, and Bjornson of Norway.

To turn to Africa, Grant Allen's *Tents of Shem* has its scene laid in Algeria; Morocco is ably pictured in several books by A. J. Dawson and in *The Gate of the Desert* by John Oxenham, and the Sahara also by Robert Hichens in *The Garden of Allah*. Views of Egypt are given in Gilbert Parker's *Donovan Pasha* and in Conan Doyle's *The Tragedy of the Korosko*. Seton Merriman has a vivid picture of Equatorial West Africa in *With Edged Tools*. South Africa has a group of writers who have described many of its features and peoples; among these the chief are Rider Haggard, Bertram Mitford, Perceval Gibbon, and Harold Bindloss. *The Story of an African Farm* by Olive Schreiner should be added.

In Asia, another group of writers have made studies of India. Several works of Rudyard Kipling describe the natives and the jungles; *William the Conqueror* in *The Day's Work* has a blending of the physical conditions of the country, the native ways, and the European govern-

ment that forms an unforgettable miniature of India. Moreover, three ladies have supplied valuable material in their Indian tales—Mrs. F. A. Steel, Mrs. B. M. Croker, and Mrs. F. E. Penny. Burma is the scene of *The Treasury Officer's Wooing* and other books by Cecil Lewis, and Persia of J. Morier's *Adventures of Hajji Baba*. The Malay Peninsula is admirably depicted by Hugh Clifford in several stories, and the Malay Archipelago by Joseph Conrad in another series.

Of Australia, Rolf Boldrewood has given us a number of good books, perhaps the most graphic of which are *The Miner's Right* and *Robbery Under Arms*, and there are also the tales of E. W. Hornung, largely of the "Bush," and those of Louis Becke. But the work of Louis Becke is more closely associated with the Pacific Islands; his tales excel in describing the small coral atolls, and the larger volcanic islands are pictured by Herman Melville in *Typee* and *Omoo*. Stevenson has also written of the islands in *The Ebb Tide* and *Island Nights' Entertainments*. New Zealand is well portrayed by William Satchell, especially in *The Toll of the Bush*.

There is no lack of material respecting North America; the difficulty is not to obtain suitable books, but to select the best. Nova Scotia is the scene of several books by C. G. D. Roberts, and French Canada has its own novelists in Gilbert Parker and G. B. Burgin. Both these writers, however, deal also with other regions—e.g. Gilbert Parker in *An Adventurer of the North* treats of the Hudson Bay district, and G. B. Burgin in *The Cattle Man* of the North-West. Harold Bindloss writes of the wheat-growing in the North-West, and also of British Columbia and mining life. This province is moreover the scene of *Black Rock* and other tales by Ralph Connor. The more northern regions are graphically described in Arthur Heming's *Spirit Wolf*, A. C. Laut's *Lords of the North*, Miss Eliza-

beth Robins' *The Magnetic North*, and several books by Jack London.

The United States have a literature of their own: William Dean Howells and R. W. Chambers have each several books describing the Eastern States; Thomas Nelson Page and G. W. Cable represent the Southern States; the name of James Lane Allen is associated with Kentucky; *The Virginian* and other books by Owen Winter describe life on the High Plains. There are a number of books about California by Mrs. Atherton and Bret Harte. *The Octopus* and *The Pit* by Frank Norris and the works of Stewart Edward White may also be mentioned.

The West Indies are described in *The Conqueror* by Mrs. Atherton, *Tom Cringle's Log* by Michael Scott, and *Loup Garou* by Eden Philpotts. An excellent account of the fishing industry off Newfoundland is given in Rudyard Kipling's *Captains Courageous*.

South America has received less attention. In *Green Mansions* W. H. Hudson has described the valley of the Orinoco, and *Purple Land* deals with Uruguay. Joseph Conrad's *Nostromo* gives a good idea of the western coast, and the name of J. Rodway's *In Guiana Forest* is well chosen.

CHAPTER V

GENERAL REFERENCE WORKS

THE scope of this chapter is indicated by the sub-headings, but attention must be drawn to the fact that atlases, dealt with in an earlier chapter, are among the most important works of reference. One of the aims of instruction in geography is to give the power of reading and correlating maps, and as a rule the trained geographer will first turn to his maps when seeking information. The chief geographical conditions and relations of a place are shown by the maps, and it is usually the details and the matters of temporary as distinct from permanent importance that must be sought in the gazetteers, text-books, and year-books. Atlases, then, should have the first place in these lists if a logical classification were the only consideration.

In the case of works of reference, even more than in that of smaller books, it is essential to obtain the best and, *ceteris paribus*, the most recent. The school book has always to be supplemented in various ways, but for much of the study the reference book is the ultimate authority, and therefore, to take one instance, an out-of-date year-book is practically worthless. Successful school books are usually revised at intervals, and the date of reprinting becomes of more importance than the date of publication; but the thorough revision of larger works can be carried out only at great expense, and therefore the date of publication is usually a very important matter. For this reason it is given when possible in respect of the

following books, though it is omitted in respect of the school books.

The variety of spellings may give trouble in obtaining a reference, and different spellings may have to be tried. With regard to the form of geographical names, it is useful to remember that variations are due to several causes: (1) to the use of names in different languages—*e.g.* Rome, Roma, Rom; Florence, Firenze; Venice, Venezia, Venedig; Vienna, Wien; Munich, München, Monica; Germany, Deutschland, Allemagne; and so on; (2) to different methods of transliteration from non-Roman alphabets, as Thackeray put it, with regard to Kiev:

For if you looks in the g'ography books,
In those dictionaries the name it varies;
And they write it off, Kieff or Kioff,
Kiova or Kiow;

or as in the innumerable variations of Indian names; (3) to different methods of representing the same sounds in reproducing phonetically names which do not belong to an alphabetic language. In this case the divergence is due to the different forms used in French, German, and English, and to the unthinking transference without alteration of names from one of these languages to another. Thus the name Ujiji is transcribed by a Frenchman Oudjidji, by a German Udschidschi, and it might be in English Oojeejee; but in each case the pronunciation is the same. Definite rules introduced by the Royal Geographical Society have been very widely recognised as authoritative both in Britain, in the Colonies, the United States, and to a certain degree in Germany and France.

RULES FOR THE ORTHOGRAPHY OF GEOGRAPHICAL NAMES

1. No change is made in the orthography of foreign names in countries which use Roman letters: thus Spanish, Portuguese, Dutch, etc., names will be spelt as by the respective nations.

2. Neither is change made in the spelling of such names in languages which are not written in Roman character as have become by long usage familiar to English readers: thus Calcutta, Cutch, Celebes, Mecca, etc., will be retained in their present form.

3. The true sound of the word as locally pronounced will be taken as the basis of the spelling.

4. An approximation, however, to the sound is alone aimed at. A system which would attempt to represent the more delicate inflexions of sound and accent would be so complicated as only to defeat itself. Those who desire a more accurate pronunciation of the written name must learn it on the spot by a study of local accent and peculiarities.

5. *The broad features of the system are:*

(a) That vowels are pronounced as in Italian and consonants as in English.

(b) Every letter is pronounced, and no redundant letters are introduced. When two vowels come together each one is sounded, though the result, when spoken quickly, is sometimes scarcely to be distinguished from a single sound, as in *ai, au, ei*.

(c) Two accents only are used: (1) The acute, to denote the syllable on which stress is laid. The use of this accent is very important, as the sounds of many names are entirely altered by the misplacement of this "stress." (2) The sign *u* with the vowel U, to indicate that the sound is open, as in *up*, not as in *pull*; as Tüng, pronounced as in the English word *tongue*.

6. Indian names are accepted as spelt by the Survey of India.

7. In the case of native names in countries under the dominion of other European Powers in whose maps, charts, etc., the spelling is given according to the system adopted by that Power, such orthography should be as a rule disregarded, and the name spelt according to the British system, in order that the proper pronunciation may be approximately known. Exceptions should be in cases where the spelling has become by custom fixed, and occasionally it may be desirable to give both forms.

8. Generic geographical terms—*e.g.* those for island, river, mountain, etc.—should be as a rule given in the native form. In the case of European countries translation into English, where this has been the custom, should be retained—*e.g.* Cape Ortegal, not Cabo Ortegal; River Seine, not Fleuve Seine.

9. For Chinese names the Wade system of spelling is adopted.

N.B.—On any printed map or MS. document, an explanatory table, giving the English equivalents of the generic terms used, should of necessity be inserted.

The following amplification of these rules explains their application:

Letters.	Pronunciation and Remarks.	Examples.
a	<i>ah</i> , <i>a</i> as in <i>father</i>	Java, Banána, Somali, Bari.
e	<i>eh</i> , <i>a</i> as in <i>fate</i> , <i>e</i> in <i>benefit</i>	Tel-el-Kebir, Olé-leh, Yezo, Medina, Levúka, Peru.
i	English <i>e</i> ; <i>i</i> as in <i>ravine</i> ; the sound of <i>ee</i> in <i>beet</i>	Fiji, Hindi.
o	<i>o</i> as in <i>mote</i>	Tokyo.
u	long <i>u</i> as in <i>flute</i> ; the sound of <i>oo</i> in <i>boot</i> . <i>oo</i> or <i>ou</i> should never be employed for this sound	Zulu, Sumatra.
	Thus, not <i>Feejer</i> , but <i>Zooloo</i> , but the shorter sound of the different vowels, when necessary to be indicated, can be expressed by doubling the consonant that follows. The sounds referred to are as follows: The short— <i>a</i> , as in <i>father</i> , as compared with the long <i>a</i> , as in <i>father</i> . <i>e</i> , " <i>better</i> , " " <i>e</i> , " <i>fate</i> . <i>i</i> , " <i>sinner</i> , " " <i>i</i> , " <i>ravine</i> . <i>o</i> , " <i>sobbing</i> , " " <i>o</i> , " <i>sobber</i> . <i>u</i> , " <i>rubber</i> , " " <i>u</i> , " <i>rubric</i> .	Yarra, Tanna, Mecca, Jidda, Bonny.*

* The *y* is retained as a terminal in this word under Rule 2 above. The word is given as a familiar example of the alteration in sound caused by the second consonant.

Letters.	Pronunciation and Remarks.	Examples.
	In the case of two different consonants following a short <i>u</i> , the accent <i>ü</i> may be used instead of doubling the consonant, as <i>Tüng</i> , pronounced <i>tongue</i> . Doubling of a vowel is only necessary where there is a distinct repetition of the single sound	
ai	as in <i>aisle</i> , or English <i>i</i> as in <i>ice</i>	Naulúa, Oosima.
au	ow as in <i>how</i> . Thus, not <i>Bowchee</i> , but	Shanghai.
ao	is slightly different from above	Bauchi.
aw	when followed by a consonant or at the end of a word, as in <i>law</i> .	Macao.
ei	is the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely to be distinguished from <i>ei</i> in the English <i>eight</i> or <i>ey</i> in the English <i>they</i> .	Dawna, Saginaw.
b	English <i>b</i> .	Beirút, Beilúl.
c	is always soft, but is so nearly the sound of <i>s</i> that it should be seldom used If <i>Celêbes</i> were not already recognised it would be written <i>Selêbes</i> .	Celêbes.
ch	is always soft as in <i>church</i>	Chingchin.
d	English <i>d</i> .	
f	English <i>f</i> . <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiphong</i> , but	Haifong, Nafa.
g	is always hard. (Soft <i>g</i> is given by <i>j</i>).	Galápagos.
h	is always pronounced when inserted.	
hw	as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel; thus <i>Hwang ho</i> , not <i>Whang ho</i> , or <i>Hoang ho</i>	Hwang ho, Ngan hwei.
j	English <i>j</i> . <i>Dj</i> should never be put for this sound	Japan, Jinchuen.
k	English <i>k</i> . It should always be put for the hard <i>c</i> . Thus, not <i>Corœa</i> , but	Korea.
kh	The Oriental guttural	Khan.
gh	is another guttural, as in the Turkish As in English.	Dagh, Ghazi.
l	When to represent the liquid sound of <i>l</i> in native names the French use the terminative <i>illes</i> (as in <i>Marseilles</i>), the <i>les</i> should be omitted. No attempt is made to represent the French <i>u</i> .	
n		
ng	has two separate sounds, the one hard as in the English word <i>finger</i> , the other as in <i>singer</i> . As these two sounds are rarely employed in the same locality, no attempt is made to distinguish between them.	
p	As in English.	
ph	As in <i>loophole</i>	Chemulpho, Mokpho.
th	stands both for its sound in <i>thing</i> , and as in <i>this</i> . The former is most common	Bethlehem.

Letters.		Examples.
q	should n ^o unciation and Remarks. given as When <i>qu</i> should be given	
r		
s		
sh		
t		
v		
w		
x		
y		
z		
zh		

should n^ounciation and Remarks.

Examples.

given as

When *qu*

should be given

ployed ; *qu* (in *quiver*) is

Kwangto.

und of *k* as in *quoit*, it

k.

As in English. Th

trilled.

should be rolled or

is always a consonant, a

fore should never be

i or *e* being substituted

require

in *yard*, and there-

Thus, not *Me*

as the sound may

Sawákin.

English *z*

The French *j*, or as *s* in *tr*

Accents should not general

where there is a very dec

syllable or stress, which af

of the word, it should be

acute accent

hindány, wady, but

not *Kwaly*, but

ure

be used, but

ided emphatic

ffects the sound

marked by an

Kikúyu.

Mikindáni, wadi.

Kwale.

Zulu.

Muzhdaha.

Tongatábu, Galá-

pagos, Paláwan,

Saráwak.

Letters.	Pronunciation and Remarks.
	In the case of two different consonants following a short <i>u</i> , the accent <i>z</i> may be used instead of doubling the consonant, as <i>Tüzg</i> , pronounced <i>longue</i> . Doubling of a vowel is only necessary where there is a distinct repetition of the sound.
ai	as in <i>aisle</i> , or English <i>i</i> as in <i>ice</i> . ICE WORKS
au	ow as in <i>how</i> . Thus, not <i>Bow</i> .
ao	is slightly different from above. Active Works
aw	when followed by a consonant or <i>i</i> of a word, as in <i>law</i> . ions of the World. Oxford: Price 7s. 6d. each.
ei	is the sound of the two Italian vowels frequently slurred over, when with which they deal. to be distinguished from <i>ei</i> in <i>eight</i> or <i>ey</i> in the English <i>they</i> . ional Geography. Macmillan Price 12s. net.
b	English <i>b</i> .
c	is always soft, but is so nearly the <i>ch</i> that it should be seldom used. idium explains the principles of If <i>Celèbes</i> were not already ch the various regions of the world. would be written <i>Selèbes</i> . ialist upon a uniform plan. Because of d accuracy, it is the most useful book of
ch	is always soft as in <i>church</i> . r. It is also issued in parts, which are
d	English <i>d</i> .
f	English <i>f</i> . <i>ph</i> should not be used. lings.
g	is always hard. (Soft <i>g</i> is The World of To-day. Gresham Price 48s.
h	is always pronounced when nd popular account of the various lands
hw	as in <i>what</i> ; better rendered by photographs. Contains maps and <i>wh</i> , or <i>h</i> followed by a vowel <i>ho</i> , not <i>Whang ho</i> , or <i>Ho</i> . Géographie Universelle. Paris: 1878-1895. Price 535fr. (Also hed by Virtue and sold only by
j	English <i>j</i> . <i>Dj</i> should never be used.
k	English <i>k</i> . It should always be hard <i>c</i> . Th
kh	The Oriental guttural ble. It is the most comprehensive and
gh	is another guttural, as in the deals with the whole world on a uniform As in English. ery useful. Teachers would do well to When to represent the liquid parts out of date, for its admirable and native names the French d. The English edition can occasionally native <i>illes</i> (as in <i>Mar</i>) few pounds.
l	should be omitted. No of Geography and Travel. New to represent the French volumes. Price 15s. each.
m	has two separate sounds, the s by various authorities, with maps and
n	the English word <i>finger</i> , st complete descriptions of the countries <i>singer</i> . As these two sounds ible. The volumes are by the following employed in the same locality is made to distinguish between
p	As in English. pe. Vol. I. The Countries of the
ph	As in <i>loophole</i> . ie north-west).
th	stands both for its sound in The British Isles, Scandinavia, <i>this</i> . The former is most Countries.

GENERAL R

RAL REFERENCE WORKS

DAWSON, S. E., North
foundland.

GANNETT, H., North

GREGORY, J. W., Aus
Zealand.

GUILLEMARD, F. H. Has the sound of *k* as in *quoit*, it
the Pacific Archipelago by *k*.

KEANE, A. H., Asia. Vol. I

— Asia. Vol. II. Southern

— Africa. Vol. I. North Afr

— Africa. Vol. II. South Afr

— Central and South America

— Central and South Ameri
and West Indies.

KNOX, A., A Glossary of Ge
section).

Pronunciation and Remarks.

Examples.

Kwangto.

Sawákin.

Kikúyu.
Mikindáni, wadi.
Kwale.
Zulu.
Muzhdaha.

Tongatábu, Galá-
pagos, Paláwan,
Saráwak.

(b) Gazetteers and

BLACKIE, C., Geographical Etymology

Names giving their Derivations. Mided emphatic

Has a preface on the value of geogra
Blackie, and is particularly valuable fr
which it explains.

CHISHOLM, G. G., The "Times" (

Although out of date in statistics at
most satisfactory gazetteer in English.

— A Pronouncing Vocabulary of I

Blackie. Pp. 103.

A cheap, clear, and concise guide
various languages, with nearly 10,000

EGLI, J. J., Nomina Geographica.

Interesting particulars (in German
names. The standard work on the

HEILPRIN, A. and L., Lippincott

The J. B. Lippincott Co., 1906.

The most recent gazetteer in E
the date of its publication, and co
in a very concise and convenient for

KNOX, A., Glossary of Geograph

Star

Gives the meaning of geogra
roots; especially full and useful in

PATRICK, D., *Chambers's Concise Gazetteer of the World.* Chambers, 1906. Price 6s. net.

The best cheap gazetteer.

TAYLOR, I., *Words and Places.* Routledge. Revised 1909. Price 6s.

— *Names and their Histories.* Rivington, 1895. Price 6s.

These books are interesting to read, and in many cases the notes on place-names suggest geographical relations.

VIVIEN DE SAINT-MARTIN ET ROUSSELET, Nouveau dictionnaire de géographie universelle. Hachette. Eight vols., 2 vols., 1900. Price 44fr. 1879-1895. Price 250fr. Supplément. It contains a bibliography.

The most thorough gazetteer in existence. It contains a very impartial account of all under almost every heading, and gives the places noticed.

to be consulted.

Standard Encyclopædias should also

Bibliographies

(c) Year-Books and

Bibliotheca Geographica, herausgegeben von der Gesellschaft für Erdkunde zu Berlin. Berlin. Annual. Price ca. 10M.

An exhaustive bibliography of the world during each year. The books or in journals in all part in the original languages. titles, which alone are given, are

Bibliographie Géographique Annuelle, publiée par les "Annales de Géographie." Paris: Colles to the "Annales." Pp. ca. 336. Price 5fr.

(Gratis to the subscribers) geographical works of the year, classified, and accompanied by critical or explanatory notes (in French) presenting a summary of the contents of each.

Geographen-Kalendar, herausgegeben von H. Haack. Pp. ca. 500. Annual. Price 6M.

Gotha: Perthes. A chronological Almanac, a list (illustrated with small coloured maps) of the important events of the past year, such as boundary-changes, discoveries, and publications of geographical books, and a "Who's Who," in alternate years, of geographers, or of societies, and periodicals.

Geographisches Jahrbuch, herausgegeben von H. Wagner. Gotha: Perthes. Pp. ca. 450. Two half-yearly volumes. Price 15M. per annum.

Gives authoritative summaries of recent advances in every department of geography, and lists of all geographical serial publications and professors of geography. Maps which are procurable. official survey maps of all countries.

International Bibliography of Scientific Literature.—Geography. of London.

Published by the Royal Society which deals with only a limited part of A very unequal bibliography scientific geography.

KELTIE, J. SCOTT, and RENWICK, I., The Statesman's Year-Book. Macmillan. Annual. Price 10s. 6d. net.

"A Statistical and Historical Annual of the States of the World." Invaluable for the carefully revised statistics of the most recent date. After a thorough summary of the conditions, mainly political and economic, of each state, a list of official and non-official publications relating to it is given. Most useful in bringing the statements of text-books up to date.

See also Monthly Record and Bibliography in "The Geographical Journal," and the Litterarische Bericht in "Petermann's Mitteilungen."

Reports of the International Geographical Congresses :

- I. Congress held at Antwerp in 1871.
- II. Paris 1878.
- III. Venice 1881.
- IV. Paris 1889.
- V. Berne 1891.
- VI. London 1895.
- VII. Berlin 1899.
- VIII. Washington 1904.
- IX. Geneva 1908.

(d) Geographical Journals

In English

The Geographical Journal. Edited by J. SCOTT KELTIE. Stanford. Published monthly, 2s. a number, 27s. per annum, post free.

This is the organ of the Royal Geographical Society; Vol. I. was published in 1893, superseding the "Proceedings of the R.G.S. (new series)," and two volumes are issued annually. In addition to numerous records of new journeys, with original maps, it contains notices of all important geographical discoveries and researches. Each month a bibliography of new publications, arranged according to subject, is included. For a list of articles bearing on the teaching of geography see above. The "Journal" is issued gratis to Fellows of the Society; also at the reduced rate of 18s. per annum, post free, on application to the Society, 1, Savile Row, London, to members of the Geographical Association.

The Scottish Geographical Magazine. Edited by J. GEIKIE and MARION NEWBIGIN. Edinburgh. Issued monthly. Price 18s. per annum.

The organ of the Royal Scottish Geographical Society. Gratis to Fellows of the Society, and at the reduced rate of 12s. per annum to Members of the Geographical Association. Frequently contains articles of use to teachers (e.g. list above), and is valuable for papers on physical geography, for critical notices of books, and for its maps.

The Journal of the Manchester Geographical Society. Published for the Society by Sherratt & Hughes, Manchester.

Mainly reports of papers read to the Society. See selected list in Chapter I.

United Empire (Monthly Journal of the Royal Colonial Institute). Edited by A. R. Colquhoun. Price to non-members, 1s.

Contains reports of papers and discussions on Colonial conditions, resources, and prospects.

The Bulletin of the Imperial Institute. Published quarterly. Annual subscriptions 4s. 8d., including postage. London.

Specially valuable for reports on economic productions and resources.

The Bulletin of the American Geographical Society. Edited by G. C. HURLBUT. New York: Price \$5 a year.

The best American geographical periodical.

The National Geographic Magazine. Edited by G. H. GROSVENOR. New York: Price \$2.50 a year.

These two American journals frequently contain valuable articles on America and information derived through American sources that are not otherwise accessible on this side of the Atlantic. The latter contains many excellent illustrations.

There are many other excellent publications of Geographical Societies.

In French

Annales de Géographie. Edited by VIDAL DE LA BLACHE, L. GALLOIS, EMM. DE MARGERIE, and L. RAVENEAU.

Paris: Colin. Price 25fr. (Union Postale).

Contains many articles of general interest as well as valuable papers on the natural regions of France. The September number is a bibliography.

La Géographie. Bulletin de la Société de Géographie de Paris.

Paris: Masson. Two volumes a year. Price 25fr. (Étranger).

A valuable French periodical on the lines of the *Geographical Journal*.

Revue de Géographie. Edited by CH. VÉLAIN. Annual from 1907. Paris: Delagrave. Price 15fr.

This is a continuation of the old monthly periodical of the same name, founded in 1877 by L. Drapeyron. The annual contains very important monographs and critical articles on the progress of selected portions of geography.

In German

Petermann's Mitteilungen. Edited by A. SUPAN and P. LANG-HANS. Gotha: Perthes. Price 24M. per annum.

The leading geographical journal published on the Continent. With many original articles and a monthly bibliography with critical summaries of the contents of the works cited. Original maps are a special feature. Special monographs are published as supplementary parts (Erganzungshefte) from time to time.

Die Geographische Zeitschrift. Edited by A. HETTNER.

Leipzig: Teubner. Price 20M. per annum.

Very useful to teachers. For articles on the teaching of geography, see Chapter I.

Zeitschrift der Gesellschaft für Erdkunde zu Berlin.

Price 15M. per annum.

Contains many valuable original articles.

For a fuller list of periodicals see the Bibliographical Works cited under (c).

CHAPTER VI

TEXT-BOOKS FOR SCHOOL USE

IN recent years the place of the text-book in educational work has been greatly changed. It is no longer the chief means of instruction, as it was in the days when the teacher contented himself with setting a piece of the book to be learnt by heart and testing the results afterwards. It is now tending to become merely a supplement to the work done by the teacher and pupil together. This tendency for the teacher to do the essential part of the teaching is due to a general change in educational ideas, and in the case of geography to a change in the subject-matter. The text-book was quite sufficient as long as geography was supposed to consist of lists of place-names and snippets of information. Now that its content is recognised as something entirely different, the text-book alone is inadequate, and it can be used only as an aid to the teacher.

Text-books may be used in several ways. They may form the basis of careful study in class, both teacher and scholars taking part, possibly in a series of questions and answers based upon the text. In later stages the book may serve as a quarry whence pupils have to extract material to be used in connection with the oral teaching, or in which they may find examples of principles already taught. Again, the text-book may serve as a ready-made summary of the class-work, and may be used for revision in the home-work.

None of these ways of using books applies to the earliest stages of teaching. There the work should be guided entirely by the teacher, and conducted as far as possible on graphic and practical methods.

Although the text-books are no longer the exclusive means of teaching geography, they are certainly no less useful in education, if used with discretion, and they need to be written with far greater knowledge and care. Three purposes may be fulfilled in a text-book :

Firstly, they may form summaries of the principles of geography, and hence the writers must themselves be masters of the subject, for no mere accumulation of facts will qualify one to write such a summary. The geographical relations must be thoroughly appreciated, the proper proportion and perspective must be observed, and conciseness in statement must be obtained without sacrifice of accuracy. This matter of explaining principles is the one in which the older books mostly fail, and it is the one which generally requires most careful examination before a book is selected for use. Other features lacking in a book may be supplied ; facts and illustrations may be added by the teacher in various ways to correct deficiencies, but if the fundamental ideas are absent or badly expressed, the fault is irremediable. The disadvantage of being inadequate is most serious in this part of a text-book. If ideas are obsolete, the book is of much less worth than if the populations of towns are given according to an old census return or the production of minerals as that of some years before, for these latter inaccuracies can be corrected by a cyclostyled page of figures.* Since the science of geography is growing so rapidly, even more

* Such corrections need to be made in the case of almost any book unless it is obtained immediately after issue, and the teacher would do well to make a list of them by comparison with the returns of some annual publications mentioned in the chapters on works of reference.

careful attention needs to be given to the accuracy of the general ideas and principles expressed than to the up-to-date character of the facts and statistics.

Secondly, the text-book may form a treasury of facts and details. Here, again, accuracy is necessary, and here, also, the power of appreciation and selection must be manifested. The facts should be those which are really important, and as a rule those facts are important which are good illustrations of the general principles of geography. If the principles are taught, and the chief examples sought in each region of the world, it will be found that the important facts are necessarily included. With these greater facts smaller details may be inserted, but the scope of geography is so wide that this should be done sparingly, and only for special reasons. Yet a text-book may contain details—for example, statistics of heights of mountains and passes, lengths of rivers or roads, areas of countries, populations of cities, etc.—which should have very little place in oral teaching. These facts are useful in a number of ways, but should be referred to as occasion suggests, and not learnt by heart.

Thirdly, the book may supply illustrations of various kinds. It may contain maps, and in that case these should be of a special character, and show features or facts not delineated in the school atlas. Duplication of the ordinary maps in atlas and text-book is a fault, as is also the duplication of facts given both in the text and in the maps of the book itself. Many of the statements of the older books were obvious on looking at a map, and the space thus wasted would have been well used in stating those principles which pupils can see illustrated but cannot learn from maps. Much of what is said below about the use and selection of wall-maps applies also in the case of maps in books.

In addition to the systematic text-books, there are

descriptive accounts of places and peoples, ranging from the old *Geographical Readers* to the *Descriptive Geographies from Original Sources* (see list below). Such collections have their place in affording those interesting details which are needed to complete and vivify the systematic work. Though such readers are now rightly removed from the part of the curriculum which is devoted to "English," the better books of their kind may profitably be retained in connection with the "Geography." Books of this class are distinguished in the lists below by "R" prefixed to the note upon them.

Pictorial illustrations may well be included in text-books. This feature, comparatively new, seems destined to become of increasing importance. These illustrations obviate a great danger attaching to the use of books. Pupils easily get into the habit of thinking of mere words and statements instead of thinking of realities. The statements about towns, rivers, or mountains are learnt, manipulated in various ways, and reproduced without any idea of the things themselves. A good method of correcting this is to place views in close association with the statements. The use of pictures is discussed below, and one need only point out here that for each child to have views which can be kept for constant reference is an additional advantage. The pictures, necessarily few, should be well chosen, and each one should be inserted because it well illustrates some part of the text which requires illustration. In many books one regrets to find unsatisfactory pictures, such as a view of a part of a city which shows no distinctive features and might represent a thoroughfare in almost any other town in the same region. As regards diagrams, the same need of selection and appropriateness exists.

The lists appended to this chapter include some American books which, although not suitable for most

British classes, contain features comparatively rare in British publications. They will suggest methods and devices to the teacher, and occasionally may be taken as class-books in cases where America is a region for special study.

The list of school text-books on special aspects of geography (astronomical, physical, etc.), and on the geography of special areas, will be found at the end of the bibliographies of reference-books on these subjects.

In future editions no text-books will be noticed which do not bear the name of the author (or editor), and the date of publication.

TEXT-BOOKS FOR SCHOOL USE

General

"R" prefixed to the note on a book indicates that its style is designed to make it suitable for use as a reading-book.

NOTE.—No books which are without the author's name or a date are included in this list.

ARNOLD-FORSTER, H. O., **This World of Ours: Being Introductory Lessons to the Common-sense Study of Geography.** Cassell. Pp. 324. Price 2s. 6d.

A clear and attractive elementary exposition of the principles of geography. Well adapted for upper classes.

BIRD, C., **A School Geography.**

Whittaker & Co. Pp. 275. Price 2s. 6d.

A good school book, which aims at being both interesting and educational.

CHISHOLM, G. G., **School Geography.**

With 61 maps. Longmans. Price 3s. 6d. Questions 1s.

— **Junior School Geography.**

With 31 maps. Longmans. Price 2s. cloth; 1s. 6d. boards.

Both these well-known books are accurate, well-planned, and very useful.

DODGE, R. E., **Elementary Geography.** Pp. 231. Price 65 cents.

— **Advanced Geography.**

Chicago: Rand, McNally & Co. Pp. xix. 333. Price \$1.20.

On the best modern lines, written with special reference to American conditions, but full of excellent suggestions to the British teacher.

FAIRGRIEVE, J., **The Round World.**

Black. Pp. 114. Price 1s. 4d.

A good introduction to world geography, by simple studies of the continents.

GREGORY, J. W., **Geography—Structural, Physical, and Comparative.**

Blackie. Pp. 305, 32 plates and coloured maps. Price 6s.

A clear account of the world as seen by the geologist, based mainly on Suess's classical work, with very brief additions on climate, resources, and peoples.

HEATON, E. W., A Scientific Geography:

Book I.	The World.	Pp. 306.	Price 2s. 6d. net.
Book II.	The British Isles.	Pp. 137.	Price 1s. 6d. net.
Book III.	Europe.	Pp. 145.	Price 1s. 6d. net.
Book IV.	North America.	Pp. 132.	Price 1s. 6d. net.
Book V.	Africa.	Pp. 109.	Price 1s. 3d. net.
Book VI.	The British Empire.	Pp. 132.	Price 2s. net.
Complete in one volume.		Pp. 861.	Price 5s. net.

Ralph, Holland & Co.

The distinguishing features are the sketch-maps and the full treatment of the geological factors. They give geography as seen by a geologist.

HERBERTSON, A. J., The Oxford Geographies:

I.	Preliminary Geography.	Pp. viii. 149.	Price 1s. 6d.
II.	Junior Geography.	Pp. 288.	Price 2s.
III.	Senior Geography.	Pp. viii. 363.	Price 2s. 6d.
With Physiographical Introduction.			Price 3s. 6d.
With Statistical Appendix and Questions.			Price 3s.
Complete edition, price 4s.			

The Physiographical Introduction is published separately at 1s. 6d., and the Questions and Statistical Appendix at 1s.

Clarendon Press.

The first volume is largely descriptive, the second has a more definitely causal treatment, with emphasis on economic conditions, and the third considers the world according to its natural regions, with emphasis on historical geography. The books are illustrated with specially drawn diagrammatic maps, many of them suitable for copying on the blackboard.

HERBERTSON, F. D., Elementary Geography.

Oxford: Clarendon Press. Prices 10d. to 1s. 9d.

A series of seven volumes, treating elementary geography clearly, in very simple language; with questions, exercises, and photographs.

See under separate headings below.

HERBERTSON, A. J. and F. D., Descriptive Geographies from Original Sources. Eight vols.

Europe; Asia; Africa; Australia and Oceania; North America; Central and South America; British Empire; British Isles (by Lettice Jowitt).

Black. Pp. about 250. Price 2s. 6d. each volume.

R. Collections of graphic and interesting descriptions from authorities such as explorers and travellers; with full introductions, notes, bibliographies, and illustrations.

HERBERTSON, A. J., and FRYE, A. E., An Illustrated School Geography.

Ginn. Pp. 263. Large 4to. Price 5s.

A successful American book, re-written for use in British schools. Contains large maps as well as text and illustrations.

JACOBS, J., The Story of Geographical Discovery.

Newnes. Pp. 224. Price 1s.

R. A condensed but well-selected account.

JOHNSTON, KEITH, A Physical, Historical, Political, and Descriptive Geography.

Stanford. Price 12s.

The special feature of this book is the account of geographical discoveries and changes, illustrated by a series of maps, which forms the first part. This part can now be purchased separated, with the title "Historical Geography." Price 3s. 6d.

— **A School Physical and Descriptive Geography.**

Stanford. Price 6s.

Abridged from the above.

KING, C. F., Elementary Geography. Pp. vi. 220. Price 65 cents.

— **Advanced Geography.**

New York: Chas. Scribner's Sons. Pp. xx. 288. Price \$1.25.

See note on Dodge's geographies above.

L'ESTRANGE, P. H., A Progressive Course of Comparative Geography on the Concentric System. With pictures and diagrams in text, and 172 maps and diagrams in colour. Philip.

Pp. 148. Demy 4to. Price 6s. net.

Text only, price 3s. 6d. net. Atlas only, price 3s. 6d. net.

This is a carefully arranged work on modern lines. The maps and illustrations form a very important and unique feature of the complete book.

— **Junior Course of Comparative Geography.** With maps, pictures, and diagrams. Philip. Pp. 384. Demy 8vo.

Price 3s. 6d. net; in six parts, separately, 10d. net each.

Consists of the Junior Part of the text of the above, with maps in black and white.

LYDE, L. W., School Geography. Black.

Africa; North America; South America; Asia; Europe; British Isles; British Empire. Each 128 pp. Price 1s. 4d.

The World.

Pp. 392. Price 3s. 6d.

A collection of the important facts of the regions, presented in their causal relations.

— **Elementary School Geography.** Black.

America; Asia; British Isles; Europe.

The World.

Each 32 pp. Price 4d. net.

Pp. 136. Price 1s. 4d. net.

Similar to above, abridged for younger pupils.

— **School Text-Book of Geography.** Black. Pp. xi. 410.

Price 3s. 6d.

On a regional basis, and with emphasis on the human aspects; more coherent than the above; with sketch-maps and diagrams.

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MACKINDER, H. J., **Elementary Studies in Geography.** 4 vols.
I. Our own Islands. II. Lands beyond the Channel. III. Dis-
tant Lands. IV. The Nations of the Modern World.
Price 2s. each. Philip & Son.

Admirable geographies for elementary schools with much historical
information blended with geographical description.

MILL, H. R., **An Elementary Class-Book of General Geography.**
Macmillan. Pp. 382. Price 3s. 6d.

A useful text-book, carefully written and very concise.

REDWAY, J. W., and HINMAN, R., **Natural Introductory
Geography.** Pp. 146. Price 60 cents.

— **Natural School Geography.**
New York: American Book Co. Pp. xxviii. 158. Price \$1.25.
See note on Dodge's geographies above.

REYNOLDS, J. B., **World Pictures.** Black. Pp. 128 and 71
pictures. Price 2s.

A series of pictures showing important types of scenery and cor-
responding conditions of human life, accompanied by explanatory de-
scriptions, suggestions, and questions.

— **Regional Geographies: British Isles; Europe; The Americas;
Africa and Australasia; Asia.** Black. Each 128 pp., with maps
and illustrations. Price 2s.

Suitable for higher forms. Interesting in style, with a good selection
of facts arranged to show their mutual relations and to present synthetic
pictures of the regions. Well illustrated.

SNAPE, H. J., **Geographical Diagrams.** Black. Pp. 56.
Price 1s. 4d.

A collection of 120 diagrams and maps from well-known sources, with
some statistics and questions.

STEPHENSON, J. H. N., **The Elements of Geography.** Part I.
General Geography. Stanford. Pp. 174. Price 3s. 6d.

Deals with the simpler principles of astronomical, inorganic, and
organic geography on modern lines. To be followed by regional
geography in Part II.

TARR, R. S., and McMURRY, F. M., **Geography in Three Books:**

I. Home Geography and the Earth as a Whole. Price 3s. 6d.

II. North America. Price 4s. 6d.

III. Europe and the other Continents. Price 4s. 6d.

See note on Dodge's geographies above. Also sold in Five Books.

VON WYSS, C., **The Child's World in Pictures.** With 62 illus-
trations, of which 32 are in colour. Black. Price 1s. 6d.

The aim of the book is to appeal to the child's imagination by story-
like descriptions illustrated by pictures.

YOUNG., E., *A Rational Geography*. Philip.

In three parts. Price 1s. 6d. each.

- I. Climate, British Isles, Europe.
 - II. Tides, Winds, Currents, Latitude and Longitude, America, Africa.
 - III. Map Projections and Drawing, Surveying, Asia, Australia.
- A course for secondary schools. Written on physiographical lines, with practical exercises, map work, and questions. Unequal.

The Scholar's Book of Travel. Philip.

In four parts. Price 1s. 3d. each.

- I. British Isles. II. Europe. III. Other Lands. IV. British Empire.

R. Selected from the standard writings of explorers or travellers, each extract being chosen as describing some scene or physical feature, and as being of literary quality.

Peeps at Many Lands. Black.

Price 1s. 6d. net.

R. A series of 35 volumes illustrated in colour, giving brightly written accounts of the peoples and, to some extent, of the countries.

Belgium	Finland	India	Norway
Burma	France	Ireland	Portugal
Canada	Germany	Italy	Scotland
China	Greece	Jamaica	Siam
Corsica	Holland	Japan	South Africa
Egypt	Holy Land	Morocco	South Seas
England	Iceland	New Zealand	Switzerland

Also "Peeps at the World." Price 3s. 6d. net.

FRENCH SCHOOL TEXT-BOOKS

All these French books are clearly written text-books, admirably arranged, and well worth consultation.

DUBOIS, MARCEL, with various collaborators, *Cours complet de Géographie*. Enseignement secondaire. Eight vols. Paris: Masson. Price ca. 3.50 fr.

FALLEX, M., HENIGEN, A., MAIREY, A., and LESPAGNOL, G., *La Terre et l'Homme au début du XX^e Siècle*. Seven vols. Paris: Delagrave.

Price 3.50 to 5 fr. each, unbound; 5 to 6.50 fr., bound.

SCHRADER, F., and GALLOUÉDEC, L., *Nouveau Cours de Géographie*. Seven vols. Paris: Hachette.

VIDAL DE LA BLACHE, P., and CAMENA D'ALMEIDA, P., *Cours de Géographie*. Enseignement secondaire. Four vols. Paris: Armand Colin.

GERMAN SCHOOL TEXT-BOOKS

FISHER, H., and GEISTBACK, A. and M., *Erdkunde für höhere Schulen*. Pp. xi. 351; 242 illustrations, of which 12 are in colour. $8\frac{1}{2} \times 6$ in., cloth. Also published in parts, separately.
Munich and Berlin: Oldenbourg. Price 3M.

HARMS, H., *Erdkunde*. Two vols. *I. Germany and German Possessions. †II. Europe. $8\frac{3}{4} \times 5\frac{3}{4}$ in., cloth. Many illustrations, tables, and blackboard diagrams.

**Vaterländische Erdkunde*. Pp. xvi. 526. Eighth edition. 1909.

†*Länderkunde von Europa*. Pp. xvi. 500. 1908.

Leipzig: List & von Bressensdorf. Price 5M. each.

SUPAN, A., *Lehrbuch der Geographie für Oesterreichische Mittelschulen*. Pp. 302, 30 figures. $8\frac{1}{2} \times 5\frac{3}{4}$ in., cloth. Eleventh edition. 1904. Laibach: Kleinmayr & Bamberg. Price K2.40.

Somewhat fuller than the "Deutsche Schulgeographie," and with a different order of presentment of the parts of the subject. Especially designed in accordance with the 1901 syllabus of the Austrian Ministry of Education. (Austria is treated at the end of the course.)

— *Deutsche Schulgeographie*. Pp. vii. 242; a few figures, mostly profiles of continents. $8\frac{1}{2} \times 5\frac{3}{4}$ in. Ninth edition. 1908. Gotha: Perthes. Price 1M. 60pf.

— *Allgemeine Erdkunde*. Pp. 56, 17 figures. $8\frac{1}{2} \times 5\frac{3}{4}$ in. Fourth edition. 1906. Gotha: Perthes. Price 60pf.

This is a supplement to "Deutsche Schulgeographie" (above).

VON SEYDLITZ, E., and OEHLMANN, E., *Handbuch der Geographie*. Pp. xvi. 844, 400 black-and-white illustrations and maps, 30 illustrations in colour, and 4 coloured maps. $8\frac{3}{4} \times 5\frac{1}{2}$ in., half-bound. Twenty-fifth edition. 1908.

Breslau: Hirt. Price 7.50M.

Also smaller editions for lower forms, viz.:

Grundzüge der Geographie.

Price 1M.

Kleines Lehrbuch der Geographie.

Price 3M.

CHAPTER VII

ASTRONOMICAL GEOGRAPHY AND CARTOGRAPHY, FIGURE AND MOVEMENTS OF THE EARTH, AND MAPPING

THE basis of all geography is a knowledge of the form of the Earth, the method of fixing position on its surface by astronomical observations, and of representing the surface by means of maps—in other words, astronomical geography and cartography.* The neglect of the “use of the globes” is responsible for much of the vagueness with regard to conceptions of latitude, longitude, and time, which now prevails. I have often been struck with the wonderfully clear and correct ideas on time and longitude possessed by old ladies whose school education took place in the days when the globes were favourite instruments of mental gymnastic. No books can make up for the want of the solid sphere, and it is worth again emphasising that an old globe, which may be bought second-hand for a few shillings, is quite as useful as a new one, if the parallels and meridians are distinct, and the moving parts in good order. For accurate delineations of the continents one should consult an atlas, not a globe; but problems regarding time, latitude, great circle routes, etc., can never be properly understood from flat maps.

* The term mathematical geography commonly employed is very objectionable. Mathematical methods can be applied to any problem of geography which can be sufficiently simplified to be profitably expressed in mathematical notation.

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Some knowledge of the processes of surveying, of map-projections (such as may be obtained from the introduction to Philips' *Systematic Atlas* and other atlases, from the larger text-books of geography, and from the books here cited), of astronomy, and of the use of instruments, is to be desired for every teacher.

BOOKS ON ASTRONOMICAL GEOGRAPHY AND CARTOGRAPHY

CLARKE, A. R., *Geodesy*.

Oxford : Clarendon Press, 1880. Price 12s. 6d.

An excellent account of the methods of exact surveying, the measurement of the earth and determining its figure ; but the book is not one for the non-mathematical reader.

*ELDERTON, W. A., *Maps and Map Drawing*. Macmillan's Geographical Series. Pp. 129. Macmillan, 1890. Price 1s.

A simple introduction to the making and reading of different kinds of maps.

GELEICH, E., SAUTER, F., and DINSE, P., *Kartenprojektionslehre*. Leipzig : Göschen. Price 80 pf.

A very clear account of map projections. Translations of considerable parts of it are given in Dr. E. Reich's *Mathematical Geography* (Duckworth).

GORE, J. H., *Geodesy*.

Heinemann, 1891. Price 5s.

A more readable, but less thorough, work than that of Clarke.

GÜNTHER, SIEGMUND, *Handbuch der mathematischen Geographie*. Stuttgart : Engelhorn, 1890. Price 15s.

A valuable book of reference.

— *Grundlehren der mathematischen Geographie und Elementaren Astronomie für den Unterricht*. Vierte Auflage.

Munich : Ackermann, 1896. Price 2s.

Very compact and well arranged. A model text-book.

HERSCHELL, SIR JOHN, *Astronomy*.

Longmans. Price ca. 3s. 6d.

An old book, but never equalled for clearness and accuracy of statement in astronomical geography.

HINTS TO TRAVELLERS. Royal Geographical Society. New Edition. 2 vols. Price 15s. net. To Fellows of the Society, 10s. net.

Contains full practical instructions for surveying and fixing positions, with many useful tables.

***JOHNSON, WILLIS, *Mathematical Geography*. Second Edition.**
London: Philip; New York: American Book Co. Price 6s.

A work for teachers and advanced classes in schools, but in some parts the treatment is inadequate.

***MORRISON, G. J., *Maps: their Uses and Construction*. Second Edition.** Stanford. Price 5s. net.

One of the best simple treatments of the subject in English. The section dealing with the defects and advantages of different projections is especially useful to teachers.

REEVES, E. A., *Maps and Map-Making*. The Royal Geographical Society, 1910. Price 8s. ; to Fellows of the R.G.S., 6s.

This is an excellent and well-illustrated book based on lectures delivered under the auspices of the Royal Geographical Society.

WHITE, T. PILKINGTON, *The Ordnance Survey of the United Kingdom*. Blackwood, 1886. Price 5s.

This combines a short history of the survey with a description of the methods employed in producing the maps. These methods have since been modified by the greatly increased use of photography in reproduction.

* An asterisk in front of a book means that it may be used as a school text-book.

CHAPTER VIII

PHYSIOGRAPHY AND PHYSICAL GEOGRAPHY

PHYSIOGRAPHY may be defined as systematic study of the forces of nature and their effects in their local and general aspects. It is a continuation of what is commonly called in the lower schools nature-study. Physical geography, in its more precise signification, means the study of the distribution of physical phenomena, whether they pertain to the solid earth, or to its waters, or to its atmosphere. These distinctions are not always observed. Most text-books of physical geography are really physiographies, more or less complete, and it would be better if this title were employed in the original and etymological sense for which Linnaeus adopted it and Huxley revived it.

We may quote the words of Dr. Mill in the first edition. Under the title of Physiography the object is to show the essential unity of the Earth in all the manifold relations of the phenomena of its surface. The attempt to crowd too much into a small space in order to convey a minimum knowledge to ensure the victim passing certain examinations, has led to the productions of some highly objectionable little books. In them the noble symmetry of physiography is entirely obscured, and a conglomerate of disconnected fragments of chemistry, elementary physics, geology, meteorology, and astronomy, takes its place.

Physical geography—the description and distribution of the forms of the Earth's crust, and the relation of the watery and aerial envelopes to the solid Earth, and to the

energy radiated from the Sun—may be considered in three sections—(1) The Crust of the Earth, the study of which is often called Geomorphology; (2) Oceanography; and (3) Climatology.

It is convenient, however, to class together, as introductory to the whole, those books which deal with physiography or physical geography in the widest acceptation given to the name.

The extent to which physiography should be insisted on in school-teaching is a matter for decision by the individual teacher. In the country it can be taught best by actual observation of the processes going on around one; but in towns this is only possible to a much smaller extent, and the work is apt to become dry and burdensome. It will probably be found advisable to give a clear account of the chief types of land-forms—*islands, peninsulas, plains, mountains, highlands, tablelands, valleys, lakes, coastal forms, and their distribution.* There should be fuller treatment of *river-basins and river-systems.* When describing any region, the land-forms and their mutual relations may well be made the basis on which the whole structure of instruction is built; but the moving air and waters, the seasonal changes, and the effect on vegetation and the life of the people must be equally adequately treated.

For the three subdivisions special knowledge is desirable of three sciences, which for the most part lie outside of geography, though their results are essential parts of it. No study of land-forms can be satisfactory without considering the origin of the various features, which involves geology. Geography and geology necessarily overlap, and are mutually indispensable.

Meteorology, as a science, has to do with the physics of the atmosphere, and has an important practical application in the study of the conditions of weather and the prediction

of storms. Its relation to geography is through climatology, which includes the study of the distribution of climate over the Earth's surface, having special regard to sunshine, temperature, winds, and rainfall.

Oceanography, as a science, bears to the oceans the same relation that meteorology bears to the atmosphere. It extends, however, to the study of the ocean floor as well as to the water itself, and it is of geographical importance as regards the direction and position of currents, the distribution of temperature in the water, and of deposits on the sea-bed.

It may be noted that works on the physiography of the crust of the Earth have for the most part been written by geologists, and, to be fully understood, demand a considerable knowledge of geology, or by physicists specially interested in physical problems; while works on oceanography have frequently been produced by chemists, who naturally pay most attention to the composition of the water and the deposits, or by biologists, whose interest centres in the creatures living in the water, or on the floor of the oceans.

All the phenomena of physical geography may be studied in the fine *Physikalischer Atlas* of Berghaus, published by Perthes of Gotha. A similar work on a larger scale, in the preparation of which the leading British exponents of the various sections of Physical, Biological, and Anthropological Geography are engaged, is announced for publication by Mr. Bartholomew, under the auspices of the Royal Geographical Society. The Meteorological volume is the only one which has yet appeared.

In order to meet the needs of many correspondents, a brief list is given of a number of special works which are not geographical, the study of which is of great value to the geographer.

A list of the most important school books is added.

GENERAL, INCLUDING PHYSIOGRAPHY

BERGET, A., *Physique du Globe et Météorologie*. Pp. v. 353.
14 Plates, 128 Figs. Paris: Naud, 1904.

A useful work on geophysics as well as hydrography and meteorology.
The English teacher will find the first part of the book especially useful.

BONNEY, T. G., *The Story of our Planet*.
Cassell, 1893. Price 31s. 6d.

A popular treatise on physical geography by a geologist.

BROWN, R., *The Earth and its Story*. 3 vols.
Cassell. Price 27s.

Of value chiefly for the numerous illustrations and references. The
book itself is an adaptation from the German.

GÜNTHER, S., *Handbuch der Geophysik*. 2 vols. Pp. 648, 1009.
Second Edition.

Stuttgart: Enke, 1897 and 1899. Price 15 and 23 M.

Very full text. Copious, but uncritical, bibliography.

— *Lehrbuch der physikalischen Geographie*.
Stuttgart: Enke, 1891. Price 10s. 6d

Specimen of one of the best German text-books.

KRAEMER, HANS, *Weltall und Menschheit*. Geschichte der
Erforschung der Natur und der Verwertung der Naturkräfte im
Dienste der Völker. 5 vols. With over 2000 Illustrations in
black and colours.

Leipzig, etc.: Bonz & Co. Price of each vol., 16 M.

The contents of this work, which has some remarkably graphic
illustrations, are:—Vol. I.: Earth's Crust. The Earth's Crust
in its relation to Man. Geophysics, or World Forces. The
Atmosphere.—Vol. II.: Origin and Evolution of Man, of
Animals, and of Plants.—Vol. III.: The Universe. The History
of Discovery in Ancient and Mediaeval Times.—Vol. IV.: The
History of Discovery in Recent Times. Exploration of the
Ocean. The Development of Cartography.—Vol. V.: The
Growth of Natural Science. Natural Forces in the Service of
Civilisation.

MARTONNE, E. DE, *Traité de Géographie physique. Climat, Hydrographie, Relief du Sol, Biogéographie.* Pp. viii. 908. 396 Figs. and Maps, 48 Plates, and 2 Coloured Maps.

Paris: Colin, 1909. Price, paper, 22 fr.

This book is the most comprehensive work in French. It is clear, full, and well proportioned. It should be most carefully studied by all teachers.

PESCHEL, O., and LEIPOLDT, G., *Physische Erdkunde.* 2 vols. Leipzig: Dunckler & Humblot, 1885. Price ca. 20s.

Of interest historically. Professor Otto Peschel was one of the greatest of the geographers who have moulded the direction of geographical studies in Germany and in Europe generally.

RATZEL, F., *Die Erde und das Leben.* 2 vols. Vol. I. 1901. Pp. xiv. 706. 9 Coloured Maps, 9 Coloured Plates, 14 Plates, and 264 Figs. in text. Vol. II. 1902. Pp. xii. 703. 12 Coloured Maps, 10 Coloured Plates, 13 Plates, and 223 Figs. in text.

Leipzig: Bibliographisches Institut. Price 30 M.

Throughout this work human conditions are co-ordinated with physical and biological ones. It is most suggestive, and should be read by all familiar with German. The many maps and other figures will be useful to those who cannot read the text.

RECLUS, ELISÉE, *La Terre: Description des Phénomènes de la Vie du Globe.* 2 vols. (Also two English translations.)

Paris: Hachette. Price ca. 40s.

The preliminary physical considerations on which the great *Géographie Universelle* was based. The work brings out well the larger relations of the parts and features of the Earth.

ROBIN, A., *La Terre: ses aspects, sa structure, son évolution. Géologie pittoresque.* Pp. iv. 330. 3 Coloured Geological Maps, 760 Photographic Illustrations, 53 sets of Type Fossils, and 158 other Figs.

Paris: Larousse.

This book has one of the best collections of views yet published, and is most valuable in illustrating lessons on physical geography. Special attention is paid to French conditions.

SALISBURY, R. D., *Physiography.* Pp. xx. 770.

London: Murray; New York: 1907. Price 21s. net.

The most complete treatise on the physical parts of physiography in English.

SHALER, N. S., *Aspects of the Earth: A Popular Account of some familiar Geological Phenomena.*

Smith, Elder & Co., 1890. Price 16s.

— *Sea and Land: Features of Coasts and Oceans, with Special Reference to the Life of Man.*

Smith, Elder & Co., 1895. Price 10s. 6d.

Each volume consists of essays on various parts of physical geography, most attractively written, and finely illustrated.

GENERAL, INCLUDING PHYSIOGRAPHY

BERGET, A., *Physique du Globe et Météorologie.* Pp. v. 353.
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Stuttgart: Enke, 1891. Price 10s. 6d

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KRAEMER, HANS, *Weltall und Menschheit.* Geschichte der Erforschung der Natur und der Verwertung der Naturkräfte im Dienste der Völker. 5 vols. With over 2000 Illustrations in black and colours.

Leipzig, etc.: Bonz & Co. Price of each vol., 16 M.

The contents of this work, which has some remarkably graphic illustrations, are:—Vol. I.: Earth's Crust. The Earth's Crust in its relation to Man. Geophysics, or World Forces. The Atmosphere.—Vol. II.: Origin and Evolution of Man, of Animals, and of Plants.—Vol. III.: The Universe. The History of Discovery in Ancient and Mediæval Times.—Vol. IV.: The History of Discovery in Recent Times. Exploration of the Ocean. The Development of Cartography.—Vol. V.: The Growth of Natural Science. Natural Forces in the Service of Civilisation.

- MARTONNE, E. DE, *Traité de Géographie physique. Climat, Hydrographie, Relief du Sol, Biogéographie.* Pp. viii. 908. 396 Figs. and Maps, 48 Plates, and 2 Coloured Maps.

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- PESCHEL, O., and LEIPOLDT, G., *Physische Erdkunde.* 2 vols. Leipzig: Dunckler & Humblot, 1885. Price *ca.* 20s.

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- RATZEL, F., *Die Erde und das Leben.* 2 vols. Vol. I. 1901. Pp. xiv. 705. 9 Coloured Maps, 9 Coloured Plates, 14 Plates, and 264 Figs. in text. Vol. II. 1902. Pp. xii. 703. 12 Coloured Maps, 10 Coloured Plates, 13 Plates, and 223 Figs. in text.

Leipzig: Bibliographisches Institut. Price 30 M.
Throughout this work human conditions are co-ordinated with physical and biological ones. It is most suggestive, and should be read by all familiar with German. The many maps and other figures will be useful to those who cannot read the text.

- RECLUS, ELISÉE, *La Terre: Description des Phénomènes de la Vie du Globe.* 2 vols. (Also two English translations.)

Paris: Hachette. Price *ca.* 40s.
The preliminary physical considerations on which the great *Géographie Universelle* was based. The work brings out well the larger relations of the parts and features of the Earth.

- ROBIN, A., *La Terre: ses aspects, sa structure, son évolution. Géologie pittoresque.* Pp. iv. 330. 3 Coloured Geological Maps, 760 Photographic Illustrations, 53 sets of Type Fossils, and 158 other Figs.

Paris: Larousse.
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- SALISBURY, R. D., *Physiography.* Pp. xx. 770.

London: Murray; New York: 1907. Price 21s. net.
The most complete treatise on the physical parts of physiography in English.

- SHALER, N. S., *Aspects of the Earth: A Popular Account of some familiar Geological Phenomena.*

Smith, Elder & Co., 1890. Price 16s.

- *Sea and Land: Features of Coasts and Oceans, with Special Reference to the Life of Man.*

Smith, Elder & Co., 1895. Price 10s. 6d.

Each volume consists of essays on various parts of physical geography, most attractively written, and finely illustrated.

STRACHEY, SIR R., *Lectures on Geography before the University of Cambridge*. Macmillan, 1886. Price 4s. 6d.

These lectures were given by Sir Richard Strachey while President of the Royal Geographical Society, in order to illustrate the manner in which geography might be treated in a university.

SUPAN, A., *Grundzüge der physischen Erdkunde*. Pp. xii. 852. 20 Coloured Maps, over 230 Figs. Fourth Edition.

Leipzig: Veit, 1907. Price 20s. net.

This is one of the best works in German, and bears the impress of an independent thinker who can both summarise the works of others and express his own conclusions very clearly. The treatment of land-forms is original and suggestive. The coloured maps are excellent and reliable.

WAGNER, H., *Lehrbuch der Geographie*. Revised Edition (7th of Guthe-Wagner's *Lehrbuch der Geographie*). Pp. xvi. 919. 84 Figs. Hannover and Leipzig: Hahn, 1903.

A German university text-book, forming the first volume of a treatise on geography. Specially reliable for dimensions and statistics. A clear and condensed account of the existing data and conclusions of general geography. Good bibliographies and historical summaries.

GEOLOGY.—ADVANCED

CHAMBERLAIN, T. C., and SALISBURY, R. D., *Geology*. 3 vols. *Geologic Processes and their Results*. Pp. xix. 654. 471 Figs., 24 Plates.

London: Murray; New York: Holt, 1904. Price \$12.00.

A new American work of special interest. Its purpose is best explained by an extract from the preface: "Throughout the work the central purpose has been not merely to set forth the present status of knowledge, but to present it in such a way that the student will be introduced to the methods and spirit of the science. . . . Where practicable, the text has been so shaped that the student may follow the steps which have led to the present conclusion."

DANA, JAMES D., *Manual of Geology*. Treating of the Principles of the Science, with special reference to American Geological History. Pp. 1088. Over 1575 Figs., and 2 double-page Maps. Fourth Edition.

New York: American Book Co.; London: Trübner & Co., 1895.

GEIKIE, SIR A., *Text-Book of Geology*. In 2 vols. Pp. xxi. ix. 1472. 508 Figs. Fourth Edition.

Macmillan, 1903. Price 30s. net.

The standard English work on geology. Should be in every school library. Excellent summary of physiography and descriptions of geological conditions of all parts of the globe. (See *G.T.*, Vol. II., pp. 182-3.)

JUKES-BROWN, A. J., *The Students' Handbook of Stratigraphical Geology*. Pp. xii. 589. 184 Figs.

Stanford, 1902. Price 12s. net.

The most recent work dealing almost exclusively with British conditions. Contains many references to literature.

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Civilisation

LECONTE, JOSEPH, *Elements of Geology*. A Text-Book for Colleges and for the General Reader. Pp. xiv. 633. Revised and Enlarged Edition. New York: Appleton, 1889.

PRESTWICH, SIR J., *Geology*.

Vol. I. Chemical and Physical.

Price 25s.

Vol. II. Stratigraphical and Physical, with a new Geological Map of Europe. Oxford: Clarendon Press.

Price 56s.

French

DE LAPPARENT, A., *Traité de Géologie*. Pp. xiv. 1912. In 3 parts. 850 Figs., including 83 Maps and Sections. Fourth Edition. Paris, 1900. Price 35 fr.

The standard French work. Has many maps illustrating the possible distributions of land and water at different periods.

DE LAUNAY, *La Science Géologique: ses Méthodes, ses Résultats, ses Problèmes, son Histoire*. Pp. 750.

Paris: Colin, 1905. Price 29s. net.

A book on methods and problems, full of useful summaries and suggestive generalisations.

HAUG, E., *Traité de Géologie*. Vol. I. *Les Phénomènes Géologiques*. Pp. 535. 195 Figs. and Maps, and 73 Photographs. Vol. II. *Les Périodes Géologiques*.

Paris: Colin, 1907, 1909. Price 12.50 fr. each.

A new and remarkably able treatise. Vol. II. is in three parts of which only two have been issued.

German

CREDNER, H., *Elemente der Geologie*. Pp. xviii. 802. Ninth Edition. Leipzig: Engelmann, 1902.

An excellent work.

KAYSER, E., *Lehrbuch der Geologie*. 2 vols. Pp. 488, 386. Stuttgart: Encke, 1893 and 1891. Price 29 M.

The second volume is of special interest to geographers, as in many sections the problems of past distributions of land and water are discussed.

GEOLOGY.—ELEMENTARY

BRIGHAM, A. P., *A Text-Book of Geology*. Pp. x. 477. 295 Illustrations. Appleton, 1902. Price \$1.40.

An excellent and admirably illustrated work, dealing mainly with American conditions.

CHAMBERLAIN, T. C., and SALISBURY, R. D., *Geology* (Shorter Course).

London: Murray; New York: Holt. Price 21s. net.

Abridged from the larger book, but somewhat too full for school use.

98 GUIDE TO GEOGRAPHICAL BOOKS

GEIKIE, SIR A., **Primer of Geology.** Macmillan. Price 1s.

— **Class-Book of Geology.** Macmillan. Price 4s. 6d.
Two excellent works.

GEIKIE, JAMES, **Outlines of Geology.** An Introduction to the Science for Junior Students and General Readers. 400 Figs. Third Edition, Revised. Stanford. Price 12s.

A very clearly written text-book.

ROBERTS, R. D., **Modern Geology.** Pp. xxiv. 270. Murray, 1893. Price 5s.

One of the best introductions to the study of geology.

SCOTT, W. B., **Introduction to Geology.** Pp. 573. Macmillan, 1897. Price 9s. 6d.
Corresponds to Sir A. Geikie's *Class Book*, but for American students.

WATTS, W. W., **Geology for Beginners.** Pp. xviii. 352. Macmillan. Price 2s. 6d.
An admirable text-book for junior students.

GEOMORPHOLOGY AND GEODYNAMICS

ARRHENIUS, S., **Worlds in the Making.** The Evolution of the Universe. Pp. xiv. 230. London and New York: Harper, 1908. Price 6s. net.
Dr. Borus has translated this classical work of the Swedish professor.

BONNEY, T. G., **Volcanoes, their Structure and Significances.** Pp. xv. 327. 13 Plates. London: Murray; New York: G. P. Putnam's Sons, 1899. Price 6s.
A volume of Progressive Science Series. A clear exposition of subject.

— **Ice Work, Past and Present.** Kegan Paul, 1896. Price 5s.
Discusses the influence of ice in shaping the surface-features of the land.

BRÜCKNER, E., **Die feste Erdrinde und ihre Formen.** Pp. xii. 368. 182 Figs. Wien, Prag: Tempsky; Leipzig: Freytag, 1897.
(The second part of *Allgemeine Erdkunde*, which is the first volume of Kirchhoff's *Unser Wissen von der Erde*). Uses Penck's classification of land-forms.

DARWIN, C., **Coral Reefs, Volcanic Islands, and South American Geology.** Ward, Lock & Co. Price 2s.
Another edition, with Appendix by Bonney. Smith, Elder & Co. Price 2s. 6d.
Contains the original statement of the famous theory of the origin of Coral Islands.

DE LA NOË, G., and DE MARGÉRIE, E., *Formes du terrain*. Pp. vii. 205. 49 Plates with 147 Figs.

Paris: Imprimerie Nationale, 1888. Price ca. 25s.

One of the earliest and most logical of treatises on land-forms. Many useful maps and sketches in the plates.

DE LAPPARENT, A., *Leçons de Géographie Physique*. Pp. xvi. 718. 163 Figs. in text, 4 Coloured Maps. Third Edition. Paris: Masson, 1907. Price 12 fr.

In addition to the general chapters, which summarise recent researches in various fields of physical geography, there is a systematic description of the structure of the mountains, highlands, tablelands, and lowlands of the globe—the best succinct account available at the present moment within the compass of a single volume.

DUTTON, C. E., *Earthquakes—in the Light of the new Seismology*. Pp. 314. Murray, 1904. Price 6s.

GEIKIE, JAMES, *Earth Sculpture; or, The Origin of Land-forms*. Pp. xvi. 320. 89 Figs. Second Edition. Progressive Science Series. Murray. Price 6s. net.

This is a systematic introduction to the study of land-forms. Glossary at end.

— *Fragments of Earth Lore.*

Edinburgh: Bartholomew, 1893. Price 12s. 6d.

A valuable series of lectures and addresses on different aspects of physical geography, mainly relating to the crust of the earth.

GREGORY, J. W., *Geography: Structural, Physical, and Comparative*. Pp. viii. 305. Blackie, 1908. Price 6s. net.

Contains a clear elementary account of the morphology of the continents. The general introduction is somewhat meagre.

HAHN, F. G., *Inselstudien*. Leipzig: Veit, 1883. Price 7s. 6d.

Specimen of the detailed study and classification of one type of geographical feature. Many similar monographs are to be found in the *Ergänzungshefte* to *Petermann's Mittheilungen*.

HESS, H., *Die Gletscher*. Pp. 426.

Brunswick: Vieweg & Son, 1904. Price 16s. 6d. net.

HILGARD, E. W., *Soils: their Formation, Properties, Composition, and Relations to Climate and Plant Growth*. Pp. 593. Macmillan, 1907. Price 17s.

100 GUIDE TO GEOGRAPHICAL BOOKS

JUDD, J. H., *Volcanoes: What they are, and what they Teach.*
Kegan Paul, 1888. Price 5s.

Primarily geological, but of geographical interest throughout.

KING, F. H., *The Soil: its Nature, Relations, and Fundamental Principles of Management.* Pp. 303.
Macmillan, 1905. Price 3s.

MARR, J. E., *Scientific Study of Scenery.* Pp. xii. 368. 21 Plates,
42 Figs. Methuen, 1899.

An interesting and useful introduction to geomorphology.

MERRILL, G. P., *Rocks, Rock-weathering, and Soils.* Pp. 411
Macmillan, 1904. Price 17s.

MILNE, JOHN, *Earthquakes and other Earth Movements.*
Kegan Paul, 1886. Price 5s.

The importance of earthquakes in geography is becoming clearer as their study is carried on.

— Seismology.

MONTESSUS DE BALLORE, COMTE DE, *Les Tremblements de Terre.* (Géographie Séismologique.) Pp. 475.
Paris: Colin, 1906. Price 12 fr.

— *La Science Séismologique.* (Les Tremblements de Terre.)
Pp. 579. Paris: Colin, 1907. Price 16 fr.

NEUMAYR, M., *Erdgeschichte.* Second Edition. Revised by
V. Uhlig. 2 vols. Pp. 663, 700. Many Illustrations.
Leipzig: Bibliographisches Institut, 1895. Price 32 M.
An original and suggestive work.

PENCK, A., *Morphologie der Erdoberfläche.* 2 vols.
Stuttgart: Engelhorn, 1894. Price 32s.

This standard work is not only a compendium of physico-geographical theories, but also a bibliography of all works on the crust of the Earth of any importance published up to 1893.

READE, T. MELLARD, *The Evolution of Earth Structure, with a Theory of Geomorphic Changes.* Pp. xv. 342. 40
Plates. Longmans, 1903. Price 21s. net.

A suggestive work on a very difficult subject, with discussion of ingenious experiments.

RICHTHOFEN, F. VON, *Führer für Forschungsreisende.* Reprint. Pp. 734.
Hannover: Jänecke, 1901. Price 12 M.

A classical work on geomorphology.

RUSSELL, I. C., River Development. (American Title: Rivers of North America. A Reading Lesson for Students of Geography and Geology.) Pp. xix. 327. xvii full-paged and 23 other Figs. Progressive Science Series.

London: Murray; New York: G. P. Putnam's Sons, 1898.
Price 6s. net.

Although American rivers are considered more fully than others, this book is a valuable and suggestive one for the teacher of physical geography. Chapters on laws governing streams, influence of rocks, materials carried by streams, deposits, terraces, stream development, some characteristics of American rivers, life history of a river.

SIEBERG, A., Handbuch der Erdbebenkunde. Pp. 362.
Brunswick: Vieweg & Son, 1904.

SUESS, E., Das Antlitz der Erde. 4 vols.
Wien and Prag: Tempsky, 1885, 1888, 1901, 1909.

— **The Face of the Earth.** Translated by Miss Hertha Sollas, Ph.D., revised by Prof. W. J. Sollas, F.R.S. 4 vols.: pp. xii. 604; vi. 556; viii. 400; viii. 673.

Oxford: Clarendon Press. Price £4 net.

The classical work on the subject. An excellent translation of the above. The German illustrations and notes are reproduced, but not those added in the French edition; so that the English revision presents Suess's work as he wrote it. The fifth and final volume is an index, which is in the press.

— **La Face de la Terre.** Vol. I. 1897. Pp. xv. 833. 2 Coloured Maps, and 122 Figs. Price 20 fr.—Vol. II. 1900. Pp. 878. 2 Coloured Maps, and 128 Figs. Price 20 fr.—Vol. III., Part I. 1902. Pp. xii. 530. 3 Coloured Maps, and 911 Figs. 15 fr.
Paris: Colin.

An admirable French translation of the above work, with many additional figures, executed under the supervision of Emmanuel de Margérie. The final volume is being translated.

WALTHER, J., Das Gesetz der Wüstenbildung. Pp. xiv. 175.
50 Figs. Berlin: Reimer, 1900. Price 12 M.

A beautifully illustrated study of land-forms in desert regions.

METEOROLOGY AND CLIMATOLOGY

ANGOT, A., Traité élémentaire de Météorologie. Pp. vi. 417.
Paris: Gauthiers-Villars, 1899. Price 12 fr.

One of the best expositions of modern views on meteorology.

BUCHAN, A., Circulation of the Atmosphere. "Challenger" Reports—Physics and Chemistry. (To be consulted in a library.)

Contains a unique collection of climate maps showing the temperature, pressure, and winds of the whole world for each month.

102 GUIDE TO GEOGRAPHICAL BOOKS

BUCHAN, A. (Editor), BARTHOLOMEW, J. G., and HERBERTSON, A. J., *Atlas of Meteorology*. (Bartholomew's Physical Atlas, Vol. III.) Constable, 1899. Price 52s. 6d.

The most comprehensive collection of meteorological maps. The introductory text contains much detailed information about climatological facts.

DAVIS, W. M., *Elementary Meteorology*.

Boston : Ginn, 1894. Price 10s. 6d.

An admirable text-book, clearly arranged, and distinguishing distinctly between facts and theories.

DICKSON, H. N., *Meteorology: the Elements of Weather and Climate*. Methuen, 1893. Price 2s. 6d.

The simplest introduction to modern meteorology for school use. Unfortunately out of print.

HANN, J., *Die Erde als Ganzes, ihre Atmosphäre und Hydrosphäre*. Pp. v. 336. 24 Coloured Plates and 92 Figs. Fifth Edition. Wien, Prag : Tempsky ; Leipzig : Freytag, 1896.

(The first part of *Allgemeine Erdkunde*, see above.) A careful summary.

— *Lehrbuch der Meteorologie*. Pp. xiv. 805.

Leipzig : Tauchnitz, 1901. Price 30 M.

The best and most advanced work on the subject.

— *Handbuch der Klimatologie*. 3 vols. Vol. I. 1908. Vol. II. 1909. Third Edition. Vol. III. Second Edition. 1897.

Stuttgart : Engelhorn. Price 15s.

The most authoritative work on climatology.

— *Handbook of Climatology*. Part I., General Climatology. Translated by R. de C. Ward. Pp. xiv. 437.

Macmillan, 1903. Price 12s. 6d.

An indispensable book for the teacher of geography. The translation is from the second edition of the first volume of the author's *Klimatologie*, with numerous additional references and notes. (See *G.T.*, Vol. II., pp. 138, 139.)

HERBERTSON, A. J., *The Distribution of Rainfall over the Lands*. (Special publication of R.G.S.) Pp. iv. 71. 13 Maps, 1 Plate. Murray. Price 5s.

The maps show the distribution of rainfall for each month (the first published for the world), and for the year, with a plate showing the seasonal distribution of rainfall at selected stations.

HILDEBRANDSSON, H. H., and TEISSERENC DE BORT, *Les Cases de la Météorologie Dynamique*. 2 vols. I. 1898-1907. Price 11 fr.—II. 1900-1905. Price 12 fr. Paris : Gauthier-Villars.

A critical historical account of theories of atmospheric circulation, with a statement of the present condition of our knowledge of the subject.

SCOTT, R. H., *Elementary Meteorology*. Kegan Paul. Price 5s.

As an advanced text-book.

SUPAN, A., Die Verteilung des Niederschlags auf der festen Erdoberfläche. With 3 Plates of Coloured Maps.

Gotha: Perthes, 1898. Price 7.40 M.

Good discussion of principles. Excellent maps of mean rainfall for year and four seasons (the first for the world), and map of seasonal distribution of rainfall. Statistical tables of rainfall in extra-European countries.

WALDO, F., Elementary Meteorology for High Schools and Colleges. New York: American Book Co., 1896. Price 6s.

Summarises many theories.

WARD, R. DE C. Climate. Pp. xv. 372. Progressive Science Series. Murray, 1908. Price 6s. net.

Sets forth the broader facts of climate in a well co-ordinated and instructive manner, with special reference to the relationship of climate to man. The needs of the teacher have been kept in view. He will find it an invaluable book.

WOEIKOF, A., Die Klimate der Erde. 2 vols.

Jena: Costenoble, 1887. Price ca. 17 M.

A German translation of an excellent Russian work on broad lines.

HYDROGRAPHY AND OCEANOGRAPHY

AGASSIZ, ALEXANDER, Three Cruises of the U.S. Survey Steamer "Blake" along the Atlantic Coast of North America in 1877-1880. 2 vols. Sampson Low. Price 42s.

A good example of a book of descriptive oceanographical research.

BUCHAN, A., Report on Oceanic Circulation: Appendix to "Challenger" Report. 1895.

With valuable maps.

"CHALLENGER" REPORTS, Narrative. Vol. I. (in two parts). Report on Deep-Sea Deposits. Summary of Scientific Results. 1907. 2 vols.

These volumes, describing the greatest oceanographical expedition ever sent out, may be profitably referred to in a library. The summary of results contains an interesting treatise on the history of geography, with maps.

DARWIN, SIR G., The Tides and Kindred Phenomena in the Solar System. Pp. [20], 346. Second Edition. Murray, 1901.

The standard work on the tides.

DICKSON, H. N., The Circulation of the Surface Waters of the North Atlantic Ocean. (*Phil. Trans. R.S. London*, A CXCVI., pp. 61-293.) Dulau, 1901. Price 10s.

Discusses the circulation in 1896 and 1897, and points out the relationship between oceanic and atmospheric circulation, and the influence of seasonal variations in the condition of surface waters on the atmospheric.

FLINT, J. M., *Oceanography of the Pacific*.

Washington: Smithsonian Institution.

FOREL, F. A., *Handbuch der Seenkunde*. Pp. x. 249.

Stuttgart: Engelhorn, 1901. Price 7.50 M.

The first formal treatise on limnology.

KÖPPEN, W., *Der Ozean*. Eine Einführung in die allgemeine Meereskunde. Pp. viii. 285. 111 Figs. Second Edition.

Wien and Leipzig, 1902. Price 4 M.

A useful introductory work.

KRÜMMEL, O., *Handbuch der Ozeanographie*.

Vol. I. Die räumlichen, chemischen, und physikalischen Verhältnisse des Meeres. Pp. xvi. 526. Second Edition. 1907. Price 22 M.

Vol. II. 1887. Stuttgart: Engelhorn. Price 15 M.

The standard German work on this subject.

— *Der Ozean, eine Einführung in die allgemeine Meereskunde*. Second Edition. Leipzig: Freytag, 1902. Price ca. 2s.

A short and simply written treatise on oceanography.

MAURY, M. F., *Physical Geography of the Sea*. Various editions, e.g. Nelson. Price 4s.

A fascinating book which, although out of date, may be useful as a stimulant to further study of oceanography. The theories put forward must not be looked on as accepted at the present day; but Maury's spirit of enthusiastic research is a lesson for all time.

MURRAY, SIR J., *Annual Range of Temperature in the Surface Waters of the Ocean*.

Geographical Journal, Vol. XII., pp. 113-37.

— *Oceanography*.

Geographical Journal, Vol. XIV., 1899, pp. 34-50.

— *On the Temperature of the Floor and of the Surface Waters of the Ocean*. Geographical Journal, Vol. XIV., 1899, pp. 426-41.

Scottish Geographical Magazine, Vol. XV., pp. 505-22.

NANSEN, F., *Scientific Results of the North Polar Expedition*.

Vol. III.: Oceanography. London, 1902. Price 32s. net.

Invaluable for its examination of the Arctic and North Atlantic conditions.

PETTERSSON, G., *On the Influence of Ice Melting on Oceanic Circulation*.

Geographical Journal, Vol. XXIII., 1904.

Deals mainly with North Atlantic conditions.

RICHARD, J., *Océanographie*. Pp. vi. 398. N.D. [1908].

Paris: Vinbert & Nony.

Dr. Richard has worked for many years with the Prince of Monaco, and his book is particularly valuable for its account of methods of physical and biological research at sea.

SCHOTT, G., *Ergebnisse der deutschen Tiefsee-Expedition auf "Valdivia."* Vol. I. Ozeanographie und Maritime Meteorologie. Jena, 1902.

One of the most important studies since the "Challenger" Reports were published.

— *Physische Meereskunde.* Pp. 162.

Leipzig: Göschen. Price 80 pf.

An excellent brief account.

— *Verteilung des Salzgehalts im Oberflächen Wasser der Ozeane.* Petermann's Mitteilungen, 1902.

THOMSON, SIR C. WYVILLE, *The Depths of the Sea.*

Macmillan, 1873. Price 31s. 6d.

Describes the preliminary voyages, the success of which led to the despatch of the "Challenger" expedition.

— *The Atlantic: A Preliminary Account of the Voyage of the "Challenger."* 2 vols. Macmillan, 1877. Price 45s.

The more popular accounts of the whole "Challenger" voyage are given under "General Voyages and Travels."

THOULET, J., *L'Océan, les lois et ses problèmes.* Hachette, 1904.

An excellent popular yet precise course of lectures on oceanography.

— *Océanographie Statique et Dynamique.* 2 vols.

Paris: Boudoin et Cie., 1890, 1896.

— *Guide d'Océanographie Pratique.* (Encyclopédie Scientifique des Aide-mémoire.) Paris: Masson, 1895. Price 2s. 6d.

An attractive little book, giving a concise summary of the author's larger work.

WALTHER, J., *Allgemeine Meereskunde.*

Leipzig: Weber, 1893. Price 4s. 6d.

A short summary of oceanography, giving considerable space to oceanic life.

SCHOOL BOOKS ON PHYSIOGRAPHY

DAVIS, W. M., *Elementary Physical Geography.* Pp. 401.

Boston and London: Ginn. Price 5s. 6d.

A scholarly yet simply written American book on physiography, with many hints and suggestions as to making the subject really educational.

— and SNYDER, W. H., *Physical Geography.* Pp. 432.

Boston and London: Ginn, 1899. Price 5s. 6d.

The chapters on land-forms should be carefully studied, as they contain fresh methods of presentation.

DAVIS, W. M., *Teachers' Manual to the Elementary Physical Geography.* Pp. 80. Boston and London: Ginn. Price 1s. 3d.

A useful supplement to the above.

106 GUIDE TO GEOGRAPHICAL BOOKS

DODGE, R. E., A Reader in Physical Geography for Beginners. Pp. ix. 237. 89 Figs. Longmans, 1900.

A very useful descriptive book, treating of the larger features of the continents, the industries of men, the origin of land-forms, the great land-forms, climate, and other important features influencing man. Well-chosen illustrations.

DRYER, C. R., Lessons in Physical Geography. Pp. 430. London: Philip; New York: American Book Co., 1902. Price 6s. net.

The chapters on the Mississippi, Colorado, and St. Lawrence river-systems, which introduce the book on the "Land," are very good. The order of topics is determined by pedagogical, rather than purely logical, requirements, and is well worth consideration. References to literature in appendix.

FRYE, A. E., Brooks and Brook Basins. Pp. 119. Boston and London: Ginn. Price 3s.

Very simple and pleasant readings, forming a good beginning to the teaching of physical geography to little children.

GEIKIE, SIR A., A Primer of Physical Geography. Macmillan. Price 1s.

— **Elementary Lessons in Physical Geography.** Pp. 363. Price 4s. 6d.

— **Questions on the same.** Price 1s. 6d.
A well-written and stimulating presentation of physiography written from a geologist's point of view.

GILBERT, G. K., and BRIGHAM, A. P., An Introduction to Physical Geography. Pp. xiv. 380. New York and London: Appleton. Price 5s. net.

One of the best of recent physiographies published in the United States. Exceptionally good and appropriate illustrations.

GREGORY, R. A., The Planet Earth. Pp. 108. Macmillan. Price 2s.

Successfully teaches the astronomical portions of geography by the method of observation and induction.

— **Class-Book of Physical and Astronomical Geography.** Pp. 336. Philip. Price 3s. 6d.
An accurate and clear text-book.

— **Elementary Class-Book of Physical Geography.** Pp. 118. Philip. Price 1s. 6d.

A simplified abridgment of the above.

HERBERTSON, A. J., Outlines of Physiography. Pp. viii. 312. Second Edition. Arnold, 1907. Price 4s. 6d.

A simple statement of the more important principles of physiography illustrated by good maps and figures. Emphasises dynamic and physiological aspects.

HUXLEY, T. H., Physiography: an Introduction to the Study of Nature. Macmillan. Price 6s.

A New Edition. Revised and partly rewritten by R. A. Gregory.
Pp. 143. Price 4s. 6d.

This classic work should still be consulted by teachers in the original edition. It is specially suited for use in the Thames valley, on account of the admirable manner in which that region is treated as an introduction to natural science. The revised edition is more general and comprehensive than the original one, and forms one of the best English text-books on physiography in school use.

MILL, H. R., The Realm of Nature. Pp. xii. 369.

Murray. Price 5s.

Deals with the principles of physiography. Very carefully, accurately, and clearly set out. It is especially full in the treatment of the atmosphere and ocean. The coloured maps by Bartholomew included in it may be regarded as forming a miniature physical atlas.

MORGAN, A., Elementary Physiography. Pp. 320.

Longmans. Price 2s. 6d.

— **Advanced Physiography.** Pp. 408. Price 4s. 6d.

Although written from the physical rather than the geographical point of view, the matters treated are accurately and clearly set forth with the aid of descriptions of many experiments.

REDWAY, J. W., An Outline of Physiography. Pp. 383.

New York: Chas. Scribner's Sons. Price \$1.25 net.

A well-illustrated American text-book, complementary to the same author's *Commercial Geography*.

SALISBURY, R. D., Physiography for Schools. Shorter Course.

Pp. viii. 531. London: Murray; New York: Holt, 1909. Price 6s.

An abridgment of his larger work, *g.v.*

SIMMONS, A. T., Physiography for Beginners. Pp. 356.

Macmillan. Price 2s. 6d.

— **Physiography for Advanced Students.** Pp. 489. Price 4s 6d.

The note on Morgan's Physiographies (above) is applicable also to these books.

TARR, R. S., Elementary Physical Geography. Pp. 488.

New York and London: Macmillan. Price 7s. 6d. net.

— **New Physical Geography.** Pp. 457. Price 4s. 6d.

The note on the Physical Geography by Gilbert and Brigham (above) is applicable also to these books.

PRACTICAL WORKS

BRIGHAM, A. P., Students' Laboratory Manual of Physical Geography. Exercises to accompany Prof. Brigham's Text-Book.

Pp. x. 154.

London and New York: Appleton Co., 1905.

108 GUIDE TO GEOGRAPHICAL BOOKS

CHAMBERLAIN, T. C., **Laboratory Manual**. American Book Co.

DARLING, PROF., **Laboratory Manual**. 2 parts. Chicago.

DAVIS, W. M., **Practical Exercises in Physical Geography**.
Pp. xii. 148. Atlas of 45 Plates. Ginn, 1908. Price 3s. 6d.

Full of original exercises mainly on land-forms, illustrated by diagrams,
and on climate.

MILLER, J. & W., **Practical Geography for Secondary and
Supplementary Schools**. Pp. 116. Bell & Sons, 1909.

Deals with map construction and map reading.

MORT, F., **Practical Geography**. Pp. 71.

Blackie. Price 1s. 6d. net.

— **An Elementary Practical Geography for Middle Forms**.
Pp. viii. 91. Black, 1909. Price 2s.

Useful introductory books, laying much stress on mapping. The
second deals mainly with England and Wales.

PRICE, J. A., **Observations on the Weather**.

New York: American Book Co.

SIMMONS, A. T., and RICHARDSON, H., **An Introduction
to Practical Geography**. Pp. 380. Macmillan. Price 3s. 6d.
Also in 3 parts.

Section I. Maps; price 1s. Section II. The Globe; price 1s.

Section III. Climate; price 1s. Key; price 3s. 6d. net.

A series of carefully designed exercises to teach on heuristic lines the
portions of physiography named in the section titles.

UNSTEAD, J. F., **Practical Geography**. 2 parts. Each 1s. 6d.;
Bound together, 2s. 6d. Oxford: Clarendon Press.

The first practical work dealing with all aspects of geography.

WALLIS, B. C., **Practical Exercises in Geography**. A two years'
course of geography for secondary and other schools.

Macmillan, 1909. Price 2s. 6d.

A well-planned and comprehensive book.

CHAPTER IX

THE GEOGRAPHY OF PLANTS AND ANIMALS

THE plants and animals of any district form so striking an element in its individuality, that they have from the earliest time attracted a certain amount of attention, and latterly have been the objects of careful study. The chapters which deal with the distribution of life in books on physiography and physical geography are usually inadequate. They commonly consist of very short abstracts of the works of systematic botanists and zoologists, and discuss the distribution of classes of plants and animals. In recent years, partly owing to the stimulus of geographers and their needs, botanists have begun to pay more attention to the character and distribution of the vegetation rather than of the flora. That is, they have taken as the units higher than the individual, not species, genera, natural orders, but plant associations and formations. This is a great gain to the geographer. The close relation between climate and the luxuriance of vegetation is plain to every one who has read even general accounts of different countries. Indeed, the more he studies his subject the more the geographer realises the importance of vegetation as indicative of the quality of a region—presenting a visible synthesis of its climatic and edaphic (or soil) conditions.

The study of the character and distribution of vegetations must have an important place in geography in the schools. The different outstanding types, to which reference is almost entirely confined in school work, are very easily

recognised ; they can be illustrated by many pictures, such as those in Schimper's *Plant Geography*, or the wonderful collection edited by Karsten and Schenck. It is easy to understand how vegetation can be recognised and mapped. Beginning with a World map, or one of America, showing merely forest, grassland, and desert, and stating that this is a summary of observed facts, it is possible, on the one hand, for the pupil to compare it with orographical and climatic maps, and obtain valuable correlations ; and, on the other hand, to associate with it stories of the life of man in these different vegetation regions. It has been found that a sound knowledge of the character and distribution of the chief vegetations, added to that of the character and distribution of the great topographical divisions of the continents, is the best basis for scientific geography. In both cases the pupil starts from observed facts not very difficult to comprehend, and from these is led to seek for true interpretations.

The work which has been attempted by the plant geographers has not yet been done so systematically by students of the distribution of animals. No doubt there are many excellent chapters scattered here and there through books of naturalist travellers. Bates, Brehm, Darwin, Hudson, Wallace, and many others may be cited. Yet a more systematic work on the subject is urgently needed.

In most works on the distribution of animals and plants there are accounts of the numbers and distribution of species and genera, coupled with discussions on centres of origin, means of dispersal, migrations, and extirpations. This is also the aspect of biogeography usually dealt with in ordinary text-books, which may be said to contain as much as is essential. A number of fascinating lessons can be given on this historical-morphological subject, with the light it throws on the evolution of plant and animal forms,

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and of the past distribution of land and water. Some of these lessons can be based on such a work as Wallace's *Island Life*. But, while every child should be given some knowledge of the wonderful scenes in the drama of life in changing environments, the subject is too difficult for systematic treatment in schools, except under special circumstances, when much attention has been given to the study of systematic zoology and botany, and at least a little to geology.

BOOKS ON PLANT AND ANIMAL GEOGRAPHY

BEDDARD, F. E., A Text-Book of Zoogeography. 1895.
Price 6s. Cambridge University Press.

A compact and up-to-date summary of the facts known as to the distribution of land animals, and the inferences to be drawn from it.

BREHM, A. E., Tierleben. 3 vols. 1,200 illustrations.
Price 30s. Leipzig: Bibliographisches Institut.

This is a cheap edition of Brehm's great work in 10 volumes.

— **From North Pole to Equator.** Blackie.

A series of vivid and suggestive essays by Brehm, translated by Mrs. Thomson. An indispensable book in the school library, unfortunately out of print.

CANDOLLE, A. DE, Origin of Cultivated Plants.
Price 5s. Kegan Paul.

A classical work.

DRUDE, O., Handbuch der Pflanzengeographie. 1890.
Price 15s. Stuttgart: Engelhorn.

An authoritative treatise on the distribution of plants by one of the leading authorities.

ENGLER, A., Die Vegetation der Erde. 1896—1909. 11 vols.,
Leipzig: Engelmann. Price 18.50 M. to 32 M. per vol.

Standard monographs on the vegetation of different regions of the world. The series is only begun.

HEILPRIN, A., Geographical and Geological Distribution of Animals. Price 5s. Kegan Paul.

A valuable treatise on animal distribution, worthy of being compared with Wallace's works, from the classification given in which it differs in some respects.

HEMSLEY, W. B., Report on the Present State of Knowledge of Various Insular Floras, 1885. (In "Challenger" Reports, but purchaseable separately.) Price 2s.

A technical memoir on the plants of certain oceanic islands.

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HENSLOW, REV. G., *Introduction to Plant Ecology*. 1907.
Price 2s. 6d. Stanford.

An excellent introduction to the study of the relationship of plants to their environment.

HICKSON, S. J., *Fauna of the Deep Sea*.
Price 2s. 6d. Kegan Paul.

KARSTEN, G. and SCHENCK, H., *Vegetationsbilder*. 8 Series.
Jena: Fischer.

This is a series of collotype reproductions of photographs of vegetation typical of different formations and associations. They are exceptionally well chosen and reproduced, and are accompanied by short descriptions in German. New series will be added.

KERNER, F., *Pflanzenleben*. 2 vols. 2,000 illustrations.
Price 32s. Leipzig: Bibliographisches Institut.

One of the best works on botany. A companion work to Brehm's *Tierleben*. An English translation by Prof. Oliver is published.

KIRCHHOFF, A., *Pflanzen- und Tierverbreitung*.
Wien, Prag: Tempsky; Leipzig, Freytag, 1899.

The third part of *Allgemeine Erdkunde* (see p. 98). One of the clearest accounts of the geography of plants and animals.

LYDDEKER, R., *A Geographical History of Mammals*. 1896.
Price 10s. 6d. Cambridge University Press.

The classification differs from that of Wallace and Heilprin, chiefly in the adoption of two grades of sub-division, and in the greater number of separate regions defined. It goes into the geological history of mammalian forms.

SCHIMPER, A. F. W., *Plant Geography upon a Physiological Basis*. Translated by W. R. Fisher. 1903.
Price 42s. net. Oxford: Clarendon Press.

An indispensable work for the school library, both for its text and for its illustrations (over 500), which present admirable pictures of the nature of the vegetation in different parts of the world.

SHIPLEY, A. E., and others, *The Cambridge Natural History*.
Macmillan.

The standard English book on animal life.

STERNE, C., *Werden und Vergehen*. 1886. Berlin.

Pronounced by Prof. J. A. Thomson in his *Animal Life* (Murray, 1892) "the most successful attempt hitherto made to combine in one volume a history of the earth and its inhabitants."

WALLACE, A. R., *The Geographical Distribution of Animals*.
2 vols. Price 42s. Macmillan.

The standard work of reference on animal distribution.

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WALLACE, A. R., *Island Life*. Price 6s. Macmillan.

A fascinating work, explaining very clearly how geographical conditions affect the distribution of life and how life-conditions may be received as records of geographical change.

— ***Tropical Nature*.** Price 6s. Macmillan.

A book which may be read for its intrinsic interest, as well as for the descriptions of plant and animal life in the tropical zone.

WARMING, E., *Plant Ecology*. 1909. Oxford : Clarendon Press.

A translation of a new edition of Warming's classical work, defaced by an atrocious terminology.

CHAPTER X

THE GEOGRAPHY OF MAN

THE geography of man interests most teachers more than any other aspect. As a scientific subject it is more difficult than physical geography, owing to the greater number and complexity of the factors to be considered. Yet it is very properly emphasised in schools. There are many conclusions sufficiently simple and accurate to warrant their being taught. The need for a knowledge of the economic conditions of peoples in different regions, and the way in which these affect their customs, organisation, and thought, increases as the peoples of the world come more and more into touch and mutual dependence on each other. For citizens of the British Empire, with fellow citizens of almost every race and creed, the subject of human geography is of special importance.

The basis of anthropogeography may be taken as the map of density of population over the Earth's surface. It is convenient, in any systematic course, to start with it, and to compare it with the relief, climatic, and vegetation maps. The connection between vegetation and density of population maps is very striking. Yet there are many differences which require further analysis. This leads to valuable lessons on the relation of man with his need of food and shelter to the natural resources of his environment. In a properly planned course much information about the life of man in different parts of the world will have been given from the stories told in the lowest classes and throughout the course. Systematic human geography gives an opportunity for comparing the facts previously learned, for supplementing them, and for interpreting them.

The pupils are led to the very important conception of associations of men analogous to the associations of plants. These associations are, on the whole, topographical and economic. As in the case of vegetations, it is well to begin with the largest groups—man in the tropical forest, in the steppes, on the tundra, on the protected sea-coast, among the mountains, etc.—and study the intimate relations between the different types of environment and of man. Races, language, political divisions, do not come into this first analysis, any more than lists of species come into the first study of the great vegetations. It is almost impossible to exaggerate the importance of this study of the different ways in which men live in different environments. It brings out man's dependence on his surroundings, the impossibility of dealing with man without considering the part of the Earth he moves upon and uses—a fundamental conception, the lack of which vitiates so many modern political and social theories.

This study will give rise to other important ideas. In similar environments the density of population is not always the same, and the occupations of men differ. Some peoples make greater use of the possibilities of their environment than others. This affords a useful corrective to any idea which may have arisen that man is merely the creature of environment. Primitive peoples, no doubt, are at the mercy of their environments, of which they make little use, either because there is little which can be used, as in the case of the Eskimo, or because they have not developed the knowledge and skill which makes the best use of it, as in the case of the Red Indians of the American prairies. When the struggle for existence is hardest, there, as a rule, the civilisation of man is lowest. Civilisation requires both combination and conservation. The social inheritance is as important a factor in social character as the geographical features of the region of which the society

is part; while social isolation or intercourse is a third important factor which must be taken into account in anthropogeographical study.

It is not possible in this chapter to outline many other lessons which can be based on the study of human geography, such as the difference between the societies of regions where there are few and scattered people and those of the modern city. It may be well to point out that a city must be considered as a geographical unit of intense concentration of people, with houses, streets, water systems, etc., etc. The people, the natural conditions of the site, and the modifications made by man, are all essential parts of the city. The means of communication, the relation to the immediate and wider environments, have to be examined before the city is understood. Here, again, the legacy of the past is found to play an important part, and to make the city, as an anthropogeographical unit, something more than a society of human beings, as well as something more than a collection of bricks and mortar, of hill and valley.

This study of anthropogeographical units of different types and different orders is fundamental. It may lead, on the one hand, to systematic economic geography, to systematic political geography, or to other divisions in which one order of human activities or groupings is specially considered. We cannot teach any of these special aspects of geography properly, or indeed the abstract sciences of economics or politics, without the preliminary geographical studies we have outlined. In schools it is inadvisable to attempt systematic courses in such studies, though much pressure is often brought to bear on schoolmasters to do so in the case of economic geography. The proper plan is to emphasise economic or other aspects in the general course, and not to make the lessons purely on so-called commercial geography, which

is apt to degenerate into lists of products and descriptions of routes as futile from an educational point of view as the old gazetteer geography.

Dr. Mill expressed this well in the first edition when he said : " It should, however, be remembered that, just as the teaching of hygiene is not intended to turn school-children into physicians, so the teaching of commercial geography should not be expected to turn them into merchants. If the one subject tells something of the conditions of healthy life in the body, and the other something of the conditions of healthy life in the nation, it is all that need be looked for. To produce any effect on trade, commercial geography must be studied, as most of our great merchants do study it, practically, each in his own special department. For school purposes, commercial geography should only be looked on as the means of throwing a special light on geography in general."

" Political geography is the result at the present moment of a long series of changes in the boundaries and in the people of countries ; the consideration of which falls under the head of historical geography. It is convenient to consider, along with historical geography, the history of geographical discovery and of geographical theories. The two are really very closely related, for discovery has always gone hand in hand with acquisition of territory, and the formation of new states or empires."

Enough is not made in schools of the wider relations of history and geography. This cannot very well be carried out until more generous conceptions of history as well as of geography become common. When this happens, it may be possible to deal with the elements of political geography in schools ; but even then the study could hardly be begun with profit except in the upper forms of public and other secondary schools.

BOOKS ON HUMAN GEOGRAPHY

1. Anthropogeography and Ethnology

DENIKER, J., *The Races of Man*. pp. 576. 176 illustrations and 2 maps. Contemporary Science Series. 1900. Price 6s. net.

A description of the races of man in which an attempt is made to take more than physical characteristics into account.

HADDON, A. C., *The Study of Man*. pp. xxxi, 512. With 48 diagrams and illustrations. Progressive Science Series, 1898.

Price 6s. net. Murray. New York; G. P. Putnam's Sons.

A useful introduction to the study of man.

— *The Races of Man*.

A short and convenient summary of the most important facts.

HAHN, E., *Die Haustierte und ihre Beziehung zur Wirtschaft des Menschen*. pp. 581. With map. 1896. Price 11M. Leipzig.

The geographical problems of the place of origin and routes of dispersal of domesticated animals are specially treated. For the geographer the final chapter on the distribution of primitive occupations and the accompanying map are the most valuable. See *Geog. Teacher*, spring, 1905, for a brief summary of this part of the book, and for the maps.

KEANE, A. H., *Ethnology*. pp. 426. Cambridge Geographical Series. 1896. Price 10s. 6d.

— *Man Past and Present*. pp. 564. Cambridge Geographical Series. 1899. Price 12s.

Full of clear summaries of much that is inaccessible to the school-master. These volumes have to be read with some care and compared with other books. They are books for the teacher.

— *The World's Peoples*. 1908. Price 6s. net. Hutchinson.

A popular account of their bodily and mental characters, beliefs, traditions, political and social institutions.

KIRCHHOFF, A., *Mensch und Erde*. pp. 128. Second edition. 1905. Price: Paper, 1M.; bound, 1.25M. Leipzig: Teubner.

A collection of suggestive addresses which deal with various phases of human geography.

MARSH, G. P., *Man and Nature; or, Physical Geography as Modified by Human Action.* 1864. Price 14s. Sampson Low.

A remarkably suggestive book, which it may be difficult to procure; comparable with Maury's *Physical Geography of the Sea* in its vivid interest, but unfortunately comparable with that work also in being somewhat out of touch with modern results.

OPPEL, A., *Natur und Arbeit.* 2 vols. Vol. I, pp. x. 352, 99 illustrations in text and 20 plates. Vol. II, pp. x. 458, 119 illustrations in text and 37 plates (some in colour). 1904. Price: 9M. cloth, 10M. bound, each volume. Leipzig and Vienna.

A popular account of the geographical control of occupations, illustrated by some useful and ingenious maps and many illustrations.

RATZEL, F., *Anthropogeographie.* Grundzüge der Anwendung der Erdkunde auf die Geschichte. Vol. I. Second edition. Vol. II. Price 15s. each volume. Stuttgart: Engelhorn.

On the relations of the human race to the earth, the characteristics of peoples inhabiting the various types of natural region, and on the dependence of history on geography.

— *History of Mankind.* Edited by E. B. Tylor. 1895-7. In 3 vols. Macmillan.

Admirably illustrated, with portraits of typical members of various races, and specimens of the workmanship of primitive peoples.

— *Politische Geographie.* pp. xvii, 838. 40 sketch-maps in text. Second edition. 1903.

Price: Cloth, 18M., bound, 20M. München and Berlin.

The first systematic treatise on political geography. It deals very fully with the conception of space relations.

RIPLEY, W. Z., *The Races of Europe.* With Bibliography of the Anthropology and Ethnology of Europe. pp. xxix, 608, 160. With 222 portrait types and 88 maps and diagrams. 1900.

Price 18s. net. Kegan Paul.

A most readable and lucid book, illustrated by numerous clear black and white maps. The physical characteristics, especially skull shapes, are emphasised. A book to add to the school library.

SERGI, G., *The Mediterranean Race.* pp. 315. 93 illustrations. Contemporary Science Series. 1901.

Price 6s. Walter Scott, Ltd.

This book is also one for the teacher. The views of Sergi's opponents should be carefully examined before accepting all of his conclusions.

SHALER, N. S., *Nature and Man in America.* 1892.

Price 6s. Smith, Elder & Co.

Touches on the changes induced by American environment in European races.

TYLOR, E. B., *Anthropology*. Price 7s. 6d. Macmillan.

A most readable illustrated popular outline of the facts fully treated in the author's great work on *Primitive Culture*.

— *Primitive Culture*. Researches into the Development of Mythology, Philosophy, Religion, Language, Art, and Custom. 2 vols. Third edition. 1891. Price 21s. Murray.

This important work cannot be said to be in itself geographical, but it treats of the broad basis which unites the human race in one family, despite the minor differences produced by geographical and other environments.

2. Political and Historical Geography

BEAZLEY, C. R., *The Dawn of Modern Geography*. 3 vols.

Oxford: Clarendon Press.

An exhaustive, learned, and interesting account of the growth of European knowledge of the world from the time with which Bunbury's *History* ends and the time of Prince Henry the Navigator.

BUNBURY, SIR E. H., *History of Ancient Geography to the Fall of the Roman Empire*. 2 vols. Price 21s. Murray.

A ponderous work, recognised as the first authority, and useful for reference.

CURZON, LORD, *On Frontiers*. Romanes Lecture to the University of Oxford. 1907. Price 2s. Oxford: Clarendon Press.

A pioneer work on a difficult section of political geography.

DEMOLINS, E., *Comment la Route Crée le Type Social: I. Les Routes de l'Antiquité. II. Les Routes du Monde Moderne*. (Essai de Géographie Sociale.) pp. 462.

Price 3.50 fr. each. Librairie de Paris.

GEORGE, REV. H. B., *The Relations of Geography and History*.

Second edition. 1908. Price 4s. 6d. Oxford: Clarendon Press.

A readable volume suitable for the upper forms of a school.

NOEL, O., *Histoire du Commerce du Monde depuis les Temps les plus reculés*. 2 vols., coming down to 1789. 1891 and 1893.

Price 32s. Paris: Plon, Nourrit et Cie.

Gives important details as to the historical changes in trade routes. A third and last volume will bring the work down to 1850.

PESCHEL, O., *Geschichte des Zeitalters der Entdeckungen*. 1858.

Stuttgart and Augsburg.

An excellent German pioneer work.

RECLUS, E., *L'Homme et la Terre*. 6 vols. Vol. III, pp. 635. Histoire ancienne: Orient chinois, Inde, Mondes lointains. Histoire moderne: Chrétiens, Barbares, La seconde Rome, Arabes et Berbères, Carolingiens et Normands, Chevaliers et Croisés. Price 20 fr. each. Paris: Librairie Universelle.

A most suggestive work, the last by this great geographer, in which he summarises his vast knowledge of the earth and man.

122 GUIDE TO GEOGRAPHICAL BOOKS

ST. MARTIN, VIVIEN DE, *Histoire de la Géographie*. 1873.

Price ca. 15s. Paris: Hachette.

The only clear account of the entire history of geography in a single volume. For those who read French there is no more interesting book to be found in the range of geographical literature. It is out of print.

TOZER, H. F., *A History of Ancient Geography*. 1897.

Price 10s. 6d. Cambridge University Press.

This covers the same range of time as Bunbury's great work, including the history of the rise of Greek geography from its origin to its climax in Ptolemy, with some valuable general chapters.

3. Applied Geography—chiefly Economic

BOARD OF TRADE JOURNAL. Price 6d. per number.

Published by H.M. Stationery Office monthly.

Contains particulars of recent changes in commercial geography intended primarily for merchants, but valuable also to teachers.

CHISHOLM, G. G., *Handbook of Commercial Geography*. 7th edition. pp. xlvii, 639. 1908. Price 15s. net. Longmans.

The most reliable work on the subject. Indispensable for the teacher and for the school library.

CLEMON, F. G., *The Geography of Disease*. pp. 619. Cambridge Geographical Series. 1903. Price 15s.

A book for the specialist.

DE GANVADAN, *La Géographie Agricole*.

See "France."

DUBOIS, M., KERGOMARD, J. G., and LAFITTE, I., *Précis de Géographie Economique*. pp. 826. Second edition. 1903.

Price 8fr. Paris: Masson.

A very clear and full summary of economic geography. The best work in French.

ECKERT, M., *Handelsgeographie*. 2 vols. pp. 229, 476. 1905.

Price: Vol. I, paper, 3.80M.; bound, 5M.

Vol. II, paper, 8M.; bound, 9.40M.

Leipzig: Göschen.

An excellent German text-book.

FRIEDRICH, E., *Allgemeine und spezielle Wirtschaftsgeographie*. pp. 433. Second edition. 1907.

Price: Paper, 6.80M.; bound, 8.20M. Leipzig: Göschen.

A good modern economic geography, with some interesting maps.

HENNIG, R., *Bahnen des Weltverkehrs*. (Wissen und Können.) pp. 304. 1909. Price 6M. Leipzig: Barth.

JOHNSON-EMORY R., *Railroad Transportation*.

— *Oceanic and Inland Waterway Transportation*.

JOHNSON, EMORY R., *Transportation*. 1909. Appleton.
Clearly written books dealing mainly with American conditions.

KELTIE, J. SCOTT, *Applied Geography*. Second edition. 1908.
Price 2s. 6d. Philip.
A suggestive series of illustrative essays on different aspects of economic geography.

LÉON, P., *Fleuves, Canaux, et Chemins de Fer*.
Price 3.50 fr. Paris: Colin.
A useful discussion of the relative value of different methods of transportation.

SHIPPING WORLD YEAR-BOOK. Edited by Major Jones. A Desk-Manual in Trade, Commerce, and Navigation. Annual.
Price ca. 5s. *Shipping World Office*.
Contains the customs tariffs of all countries, and alphabetic lists with full particulars of all British and foreign seaports.

4. School Books on Human Geography, and more particularly Economic Geography

ADAMS, C. C., *A Text-book of Commercial Geography*. pp. xi, 476. With 158 maps and diagrams. Twentieth Century Text-books. 1901.

Price \$1.30, or 5s. net. London and New York: Appleton.

An excellent text-book, with many sketch-maps and illustrations. It is written from the American point of view, but is a useful work for both the teacher and the school library.

CHISHOLM, G. G., *A Smaller Commercial Geography*. pp. xii, 239. 1905. Price 3s. 6d. Longmans.

An elementary work based on the advanced treatise, and possessing its characteristic reliability.

GANNETT, H., GARRISON, C. L., and HOUSTON, E. J., *Commercial Geography*. With maps, diagrams, and illustrations. Price 6s. net. Philip. New York: American Book Co.
Excellent maps of the U.S.A.

HERBERTSON, A. J., *Commercial Geography*. 1. British Isles, 1s. 2. The World, outside the British Isles. pp. 248. 1903. Price 2s. 6d., or both volumes bound together, 3s. 6d. Chambers.

An attempt to select the more educationally valuable elements of economic geography.

HERBERTSON, A. J. and F. D., *Man and his Work*.
Price 1s. 6d. Black.

An introduction to the geography of man, in which most attention is paid to the geographical control of occupations, and the influence of occupations on man's life.

124 GUIDE TO GEOGRAPHICAL BOOKS

LYDE, L. W., **A Short Commercial Geography.** pp. 269. 1903.
Price 3s., or interleaved for notes, 4s. Black.

Clear and interesting. Full of useful information.

An interesting introduction to the study of economic geography.

— **Man and his Markets.** Price 2s. Macmillan.

— **Man on the Earth.** Price 2s. Blackie & Sons.

A clear introduction to geography, especially the geography of man.

MILL, H. R., **Elementary Commercial Geography.**

Price 1s. 6d. Cambridge University Press.

A very clear, succinct, and accurate text-book.

REDWAY, J. W., **Commercial Geography.** pp. 398. 15 coloured maps and a great number of uncoloured maps and illustrations. 1903. Price 6s. net. New York: Chas. Scribner's Sons.

Another well-illustrated American text-book which deserves to be consulted.

TROTTER, S., **Geography of Commerce.** pp. xxiv, 460. 6 inserted maps, 16 plates, and 79 maps and diagrams in text. 1903.

Price 5s. net. New York: Macmillan Co.

An interesting American text-book also worthy of examination.

CHAPTER XI

THE BRITISH EMPIRE

OUR own country is necessarily that to which most attention must be devoted in teaching ; but the home country must not be conceived in a parochial sense. In America it should not be taken as the native State, but the whole vast Union of States ; on this side of the Atlantic we should not look on it as England, Great Britain, or even the United Kingdom, but as the whole British Empire, every portion of which should be treated of in greater fulness in the schools of this country than any other part of the world of equal area or population. While placing the Empire thus in the first place, it is particularly necessary to guard against giving a false or inadequate idea of other countries, and, in any efforts to encourage patriotism, much care should be taken not to present other nations in an unfair or ridiculous light.

Another word of caution must be added. The geography of the British Empire should not be taught as a special subject, but in the geography of the World or of any continent the British lands should receive fuller treatment than those of other States.

In schools it is not essential to keep too closely to purely geographical information and principles in the geography lesson, and facts of non-geographical interest may be introduced. It is well to distinguish between the mode of government and the degree of control exerted by the mother country in the different classes of Crown,

representative, and responsible colonies, and spheres of influence administered as protectorates or by chartered companies. Great care, however, should be taken not to introduce questions of current politics.

In selecting references for the British Empire, it is difficult to know where to draw the line; but as a rule all reference to official papers is excluded. The Colonial Office "Year-book" and "Reports" and the "Blue-books" published at short intervals, giving statistics and often interesting maps, are usually too detailed to be capable of useful application in teaching. Almost all their information, digested into a compact and convenient form, will be found in Dr. Scott Keltie's *Statesman's Year-book*, in which the British Empire is very fully treated. The periodical publications of the Royal Colonial Institute, the Society of Arts, and also of the Imperial Institute abound in fresh and authentic information.

A certain caution should be exercised in interpreting the Colonial handbooks prepared for the attraction of emigrants. It is well always to remember that the advantages of the colony are rarely under-estimated, and that the disadvantages are not usually brought prominently forward in such works. The prospectuses of projected companies, or the reports of companies actually at work in the colonies may very safely be ignored for educational purposes.

It is necessary to remember that, in colonies which are being rapidly developed, a single year may produce greater changes than a century in other places.

Books on the separate British Possessions are given in the chapters on Asia, Africa, America, and Australasia.

BOOKS ON THE BRITISH EMPIRE

I. The United Kingdom

AVEBURY, LORD, The Scenery of England. 1902.

Price 6s. Macmillan.

This book treats of the relationship between the form of the land and its structure. Written in an interesting and easy manner. It has numerous good illustrations.

BARTHOLOMEW, J. G., Gazetteer of the British Islands. 1901. Census Edition.

Price 17s. 6d. net. Newnes.

With a series of valuable statistical and other maps.

CASSELL'S Gazetteer of Great Britain and Ireland: Being a complete Topographical Dictionary of the United Kingdom. With numerous illustrations and 60 Maps. 6 vols. Price 30s. Cassell.

The best and largest gazetteer of the British Islands.

CHISHOLM, GEO. G., Europe. Vol. II. (See p. 136.)

CUNNINGHAM, W., Growth of English Industry and Commerce. New Edition. In 4 vols. Cambridge University Press.

The standard work on the subject.

GEIKIE, SIR A., The Scenery and Geology of Scotland. Third Edition.

Price 12s. 6d. Macmillan.

A gracefully written discussion of the fundamental control exercised by geological structure on geographical forms. There are maps and illustrations.

GIBBINS, H. DE B., Industry in England: Historical Outlines. With 5 Maps. 1906.

Price 10s. 6d. Methuen.

— **Industrial History of England.** 1906. With 5 Maps.

Price 3s. Methuen.

These books present in a convenient form much interesting information on the historical geography of England.

HULL, E., Physical Geology and Geography of Ireland. 1878.

Price 7s. Stanford.

This volume treats of Ireland in a similar manner to Sir A. C. Ramsay's book on England, and Sir A. Geikie's on Scotland.

IRELAND, Industrial and Agricultural. 1902. Brown & Nolan.

A most useful official work, partaking of the nature of a Blue-book, but with excellent maps and illustrations. The geology is ~~is~~ shortly and clearly given.

128 GUIDE TO GEOGRAPHICAL BOOKS

JUKES-BROWN, A. J., *The Building of the British Islands.* Revised Edition, 1892. Price 7s. 6d. Bell.

An effort to establish the order in which different parts of the British Islands emerged, and the changes the land underwent at different periods. To appreciate the arguments some knowledge of geology is required.

MACKINDER, H. J., *Britain and the British Seas.* 1906. Second Edition. Price 7s. 6d. Oxford: Clarendon Press.

Indispensable for any detailed study of Britain as a whole, presenting in the most lucid way a synthetic picture of its physical history, climatology, regional topography, and historic and economic geography. A model of the regional treatment of a country.

MILL, H. R., *England and Wales viewed Geographically.* Dec. 1904. Geographical Journal.

An exceedingly useful and interesting paper on the main natural regions of England and Wales, giving shortly all the structural and climatic conditions which have affected the life and development of each, cause and effect being clearly pointed out.

— ***International Geography.*** Part I. British Isles. 1907. Price 1s. Macmillan.

PRICE, L. L., *A Short History of English Commerce and Industry.* 1909. Price 3s. net. Arnold.

An excellent account which should be studied by teachers of commercial geography.

RAMSAY, SIR A. C., *Physical Geography and Geology of Great Britain.* Edited by H. B. Woodward. 1894. Price 10s. 6d. Stanford.

To those indifferent to the latest geological details, the early editions will be found no less interesting.

ROUND THE COAST. 1896. Price 6s. Newnes.

A series of large reproductions of coast scenery in the British Islands, many of them of geographical value.

THE HIGHWAYS AND BYWAYS SERIES. In process of publication. By various Authors. Price 6s. each. Macmillan.

These volumes give topographical accounts of the country, with its chief historical interests, generally taken by counties. They vary in value from a geographical point of view, but always contain much interesting information.

SCHOOL BOOKS

The British Isles

CAMBRIDGE COUNTY GEOGRAPHIES. General Editor, F. H. H. Guillemand, M.A., M.D.

Price 1s. 6d. each. Cambridge University Press.

A few of these volumes are of real geographical value; the others of merely topographical and historical interest. The best yet out are those on Westmorland and Cambridge.

DANN, E. W., **Historical Geography on a Regional Basis :**

Vol. I. **The British Isles.** Pp. 179.

1908. Price 2s. 6d. Dent.

Contains good descriptions of the regions, written from the historical point of view, with historical summaries. Especially useful to teachers.

DAVIES, A. MORLEY, **The British Isles :**

Vol. I. **England and Wales.**

Price 2s. 6d.

Vol. II. **Scotland and Ireland.**

Price 1s. Macmillan.

An excellent text-book on heuristic lines, with many exercises.

GEIKIE, SIR A., **The Geography of the British Isles.** Pp. 127.

Price 1s. Macmillan.

Much information in a small compass.

GREEN, J. R. and A. S., **Short Geography of the British Islands.**

Price 3s. 6d. Macmillan.

An excellent junior school book on account of the view-point of the authors, and their firm grasp of topographical principles. Facts that may have fallen out of date can easily be corrected.

HEATON, E. W., **The British Isles.**

See in "General" Section.

HERBERTSON, A. J., **Commercial Geography of the British Isles.** 1900.

Price 1s. Chambers.

A little book, giving shortly and clearly an account of economic conditions and distributions, and an explanation of the geographical principles which control our economic history.

HERBERTSON, F. D., **Elementary Geography :**

Vol. II. **In and Around our Islands.**

Price 1s.

Vol. VII. **The British Isles.**

Price 1s. 9d.

Oxford : Clarendon Press.

See in "General" Section.

HUDSON, A. E. L., **A Geography of Wales.** Pp. 164.

Price 1s. 6d. Macmillan.

A good little book intended chiefly for Welsh students.

JOWITT, L., **Descriptive Geography of the British Isles.**

1909. Price 2s. 6d. Black.

See Herbertson's Descriptive Geographies in "General" Section.

LYDE, L. W., **The British Isles.**

See in "General" Section.

MACKINDER, H. J., **Elementary Studies in Geography :**

Book I. **Our Own Islands.** Pp. 298. New Edition.

Price 2s., or in two parts 1s. 3d. each. Philip.

R. Many important ideas developed in the author's *Britain and the British Seas* are here presented, with abundant maps and pictures, in a form suitable for children midway up an elementary or preparatory school.

130 GUIDE TO GEOGRAPHICAL BOOKS

REYNOLDS, J. B., *The British Isles.*

See in "General" Section.

— Ireland and Great Britain in Outline. 1909.

Price 1s. 4d. Black.

A book for the upper classes of primary schools, and the lower and middle classes of intermediate schools in Ireland.

2. The British Empire or Colonies as a Whole

CALDECOTT, A., *English Colonisation and Empire.* 1891.

Price 3s. 6d. Murray.

A concise history of the growth of the British Empire, dwelling mainly on the political, economic, and social aspects of the question.

EGERTON, H. E., *Origin and Growth of the English Colonies.*

Price 2s. 6d. Oxford: Clarendon Press.

The introductory volume of the *Historical Geography of the British Colonies*. A useful historical summary.

FROUDE, J. A., *Oceania; or, England and her Colonies.*

Price (several editions) 18s. to 1s. Longmans.

Recounts the circumstances of a visit to Cape Colony and Australasia in 1885, with reflections on the relations between the mother country and the Colonies.

GEORGE, H. B., *Historical Geography of the British Empire.* 1904.

Price 3s. 6d. Methuen.

The only book yet published which attempts to give in a complete form, yet with a fair amount of detail, the history of each of the Colonies with its geographical interpretation.

GIBBINS, H. DE B., *British Commerce and Colonies from Elizabeth to Victoria.*

Price 2s. Methuen.

An outline of the commercial history of the British Empire.

HÜBNER, BARON VON, *Through the British Empire.* 2 vols. 1886.

Price 24s. Murray.

This description covers the same ground as Froude's *Oceania*, with the addition of Canada. It is valuable as recording the impressions of an observant and impartial foreigner.

JOSE, A. W., *The Growth of the Empire.* 1909. Second Edition.

With 31 Maps.

Price 4s. 6d. Murray.

An interestingly written history of the Empire, with some slight geographical description of each country. Best from the geographical point of view on India.

KNIGHT, E. F., *Oversea Britain. The Nearer Empire. Mediterranean, British Africa, and British America.* 1907.

Price 6s. net. Murray.

Gives a short account of the geography, history, ethnology, political development, and economic resources. A useful book for teachers, with some good maps.

LUCAS, SIR C. P., Historical Geography of the British Colonies :

Vol. I. The Mediterranean and Eastern Colonies. 1906.
Second Edition revised by R. E. Stubbs. .

Price 5s.

Vol. II. The West Indian Colonies. Second Edition revised
to 1905 by C. Aitchley. Price 7s. 6d.

Vol. III. West Africa. Second Edition revised to end of 1899
by H. E. Egerton. Price 7s. 6d.

Vol. IV. South and East Africa. History and Geography
revised to 1903. Price 9s. 6d.

Vol. V. History of Canada. Part I. 1901. Part II. 1908.
Price 4s. 6d.

Vol. VI. Australasia. 1907. By J. D. Rogers. Price 7s. 6d.
Oxford : Clarendon Press.

An admirable series designed to give the historical geography of every separate British Colony, with a map even of the smallest. Sir Charles Lucas, being head of one of the departments in the Colonial Office, has the advantage of working directly from original and authoritative data, and the volumes are very skilfully compiled.

**POLLARD, A. F. (Editor), The British Empire: Its Past, its
Present, and its Future.** 1909.

Price 5s. London : League of the Empire.

An authoritative summary of the history and geography of the Empire.

ROBINSON, H. J., Colonial Chronology. 1892.

Price 16s. Lawrence & Bullen.

A neatly arranged record, very easy of reference, recording the principal events in the history of India and the Colonies.

SEELEY, SIR J. R., The Expansion of England. 1883.

Price 4s. 6d. Macmillan.

A fine example of historical geography in the special case of the origin of the British Colonial Empire.

THE NATIVE RACES OF THE BRITISH EMPIRE :

Natives of Australia. 1906. By N. W. Thomas.

Natives of British Central Africa. 1906. By A. Werner.

Natives of British North America. 1907. By C. Hill-Tout.

Natives of Northern India. 1907. By W. Crooke.

Price 6s. each. Constable.

A very valuable series, with descriptions of the nature of the country as well as the people. Interesting and well illustrated.

WHITE, A. SILVA (Editor), Britannic Confederation. 1892.

Price 3s. 6d. Philip.

A series of essays by distinguished authors on various aspects of the British Empire.

SCHOOL BOOKS

The British Empire

(For separate portions see under "Continents")

DAWSON, G. M., and SUTHERLAND, A., **Elementary Geography of the British Colonies.** Macmillan's Geographical Series. Illustrated. Pp. 332. 1898. Price 2s. Macmillan.

This is especially good and full on British North America. It gives some account of the discovery and settlement of the Colonies. India and Ceylon are not included.

GRESWELL, W. P., **The British Colonies and their Industries.** Price 1s. 6d. Philip.

R. A well-written book, which should evoke intelligent interest in the regions and their peoples.

HEATON, E. W., **The British Empire.**

See in "General" Section.

HERBERTSON, A. J., and F. D., **Descriptive Geography of the British Empire.**

See in "General" Section.

LYDE, L. W., **The British Empire.**

See in "General" Section.

"OUR EMPIRE" SERIES:

Australasia. By Philip Gibbs.

Canada. By A. L. Haydon.

Founders of the Empire. By Philip Gibbs.

India. By Philip Gibbs.

Price 1s. 6d., cloth; 2s. 6d., cloth gilt. Cassell.

R. Freely illustrated and brightly written descriptions, giving vivid ideas of the lands and peoples of the Empire.

PARKIN, G. R., **Round the Empire.** Price 1s. 6d. Cassell.

R. A good and accurate account of the Empire, pleasantly written and well illustrated.

PROTHEROE, E., **A Commercial Geography of the British Empire.** 1902. Price 1s. 6d. Nelson.

Useful as giving a short account of the origin, nature, and requirements of the different economic products—vegetable, mineral, and animal—though the geographical part of the book is of no great value.

CHAPTER XII

THE GEOGRAPHY OF EUROPE

THE following list is divided into parts dealing with Europe in general, and with certain specified countries, the names of which are alphabetically arranged.

The Continent is a division of very great importance in Political Geography, and there is much room for good monographs on the several continents from the geographical point of view. Such books would necessarily represent the generalisation of a vast amount of special information. They should deal with the outline of the Continent, the arrangement of its land-forms, with special reference to mountain systems and river-basins, with its various climates, the distribution of plants and animals. Then, having indicated the natural division into regions, the manner in which these have been settled upon by different races leading to the formation of countries should be traced, and the changes of boundary followed down to the present day. In default of any perfect work of this kind for Europe, a few of different aim and various attainment are mentioned, and in addition to these, attention should be given to the notices in the more general works under "Books of Reference" and "School-books."

In addition to systematic works, it may be found interesting to read the narratives of travel in the Continent of Europe at various periods down to the present day. Such books are very numerous, but it is difficult to make a selection. The difficulty of selection, indeed, applies to all

works of travel ; for comparatively few travellers have been geographers, and the records of journeys are nearly always one-sided or superficial. Personality counts for a great deal in selecting objects for observation, and in passing judgment on countries or societies as a whole. The one-sided books are perhaps better than the superficial, when a choice has to be made between them. The journey of a specialist is sure to be interesting, and will probably be clear and accurate in expression, whether the special object in view were mountain-climbing, boating, hunting, philanthropy, or any other branch of study or recreation.

For general descriptions of scenery and the situation of towns, the older books of travel are usually better. Travellers in coaching days saw more of the country, and saw it more leisurely.

With regard to the separate countries of Europe, some are represented by excellent general descriptions, as well as intelligent works of travel, while others are almost without trustworthy books of a readable kind. Guide-books, as a rule, are too detailed to be interesting to people who have not visited the countries described ; but M. Boule's "Guides to French Regions" have a real geographical value, and so have Ball's "Alpine Guides" (Longmans), while Murray's "Handbooks" may always be referred to with advantage. The introductory chapters give in condensed form a great deal of practical information, by mastering which a teacher may often be enabled to impart great interest to a lesson.

As a rule, the best books on each country are written in the language of that country ; but, as the present list is designed for practical utility, and is likely to be of most service to people who do not read living foreign languages with ease, books in any other language than English are less frequently mentioned.

Every teacher should endeavour in his holidays to visit some of the nearer Continental countries if he cannot go

far afield. A visit to Belgium, Holland, Normandy, North Germany, or even Switzerland, will probably be found a cheaper form of holiday than going to the sea-side in England; and the educative effect of even a short visit is very great, especially if the observer looks rather at general than particular aspects of the places he visits.

BOOKS ON EUROPE

1. Europe in General

CALLAN, HUGH, From the Clyde to the Jordan: Narrative of a Bicycle Journey. 1895. Price 6s. Blackie.

A vivid popular description of Eastern Europe, Asia Minor, and Palestine.

CASELL'S Picturesque Europe. 5 vols. Price 18s. each. Cassell.
Valuable on account of the pictures.

CAVAN, LORD, With the Yacht and Camera in the Mediterranean. 1885. Price 12s. 6d. Sampson Low.

— **With the Yacht and Camera in Eastern Waters.** 1887.
Price 12s. 6d. Sampson Low.

These two books contain a fine series of photographs of the harbours and shores of the Mediterranean.

CHISHOLM, GEO. G., Europe. 2 vols. Stanford.

Vol. I. **The Countries of the Mainland (excluding the North-West).** New Issue, 1899. Price 15s.

Vol. II. **The North-West.** New Issue, 1902. Price 15s.

These are part of Stanford's Compendium. They form the best complete geography of Europe in English, with special attention to economic historical geography.

COLE, G. and B., As we Ride. Written and printed for the Royal City of Dublin Hospital, 1902. Price 2s.

An account of a bicycle ride across North-Eastern France, the Bavarian Plateau, the Hungarian Plain, and over the Carpathians to Poland. Well worth reading; above the ordinary type of popular description.

***DANN, E. W., Historical Geography on a Regional Basis:**
Vol. II. **Europe.** 1908. Price 3s. 6d. Dent.

The only school book dealing with the historical geography of Europe.

FISCHER, THEOBALD, Mittelmeer-Bilder: Gesammelte Abhandlungen zur Kunde der Mittelmeerländer. 1906.

Price 7 M. Leipzig: Teubner.

— **Neue Folge.** 1908. Price 7 M.

By one of the best authorities on the Mediterranean lands.

* School book.

FREEMAN, E. A., Historical Geography of Europe. 1903.
2 vols. Third Edition. Price 19s. Longmans.

A classic which deals with the history of political boundaries, but does not discuss the problems of historical geography. Vol. I. is an atlas containing a series of historical maps of Europe in illustration of Vol. II.

GIBBINS, H. DE B., History of Commerce in Europe.
Price 3s. 6d. Macmillan.

***HERBERTSON, A. J., and F. D., Europe : Descriptive Geography from Original Sources.** 1907. Price 2s. Black.

See the Bibliography of this volume for references to many books and articles which cannot here be mentioned.

HETTNER, A., Grundzüge der Länderkunde. 1907.
I. Band Europa. Price 18s. Leipzig : Spamer.
One of the best geographies of Europe.

KIRCHHOFF, A., Unser Wissen von der Erde. Wien, Prag : Tempsky ; Leipzig : Freytag. In three parts, the first two in two sections each. Each of the five volumes from 20 to 30 Marks unbound.

The European countries are dealt with by Professors Egli, Fischer, Hahn, Kirchhoff, Krassnow, Lehmann, Penck, Rein, Supan, Woeikof, and are all standard reference works.

***MACKINDER, H. J., Elementary Studies in Geography.** Book II. Lands beyond the Channel. 1908. Price 1s. 9d. Philip.

Simply written, with good descriptions and correlations of history and geography.

MILL, H. R. (Editor), International Geography. Part II. Europe (including the British Isles). 1907. Price 2s. 6d. Macmillan.

PARTSCH, J., Central Europe. "Regions of the World" Series. 1903. Price 7s. 6d. Heinemann.

A most valuable book, both for its information and suggestions.

PHILIPPSON, A., Europa. 1906. Second Edition.
Price 15s. Leipzig : Bibliographisches Institut.

A volume of Siever's Länderkunde, with fuller accounts of the morphology of Europe than in any English work.

— **Das Mittelmeergebiet : Seine Geographische und Kulturelle Eigenart.** Second Edition, 1907. Leipzig : Teubner.

A clear account of the chief geographical features of the Mediterranean region. The description of the eastern portion is better than that of the western.

138 GUIDE TO GEOGRAPHICAL BOOKS

*REYNOLDS, J. B., *Europe*. 1904. Price 2s. Black

Similar in method to the author's book on the British Isles. It includes the whole Mediterranean region.

*SIME, J., *Geography of Europe*. Price 2s. Macmillan.

A useful account of the geography of Europe.

2. Austria-Hungary

CROSSE, A. T., *Round About the Carpathians*. 1878.

Price 12s. 6d. Blackwood.

DRAGE, G., *Austria-Hungary*. 1909. Price 21s. Murray.

The best account of modern conditions in Austria-Hungary.

FELBERMAN, L., *Hungary and its People*. 1892.

Price 10s. 6d. Griffith, Farran & Co.

An interesting account of Hungary, with an excellent map.

KAY, DAVID, *Austria-Hungary*. 1880.

Price 3s. 6d. Sampson Low.

Introductory chapter good, the rest rather poor.

PALMER, F. H. E., *Austro-Hungarian Life in Town and Country*.

Price 3s. 6d. Newnes.

A sufficiently interesting account of the life of the country and the distribution of the different races.

PARTSCH, J., *Central Europe*. Relevant parts (see p. 137).

SUPAN, A., *Oesterreich-Ungarn*. See Kirchhoff under *Europe in General*.

3. Balkan Peninsula

(See also "*Greece*" and "*Turkey*")

BULGARIA OF TO-DAY. Official Publication of the Bulgarian Ministry of Commerce and Agriculture, 1907.

Useful book on the development of Bulgaria, published for free distribution.

DURHAM, M. E., *Through the Lands of the Serb*. 1904.

Price 14s. net. Arnold.

— *High Albania*.

Price 14s. net. Arnold.

Very interesting accounts of the intimate life of the people in these wild mountain regions still untouched by modern Western developments and modes of thought.

* School Book.

FISCHER, T., *Südeuropäischen Halbinseln*. See Kirchhoff under Europe in General.

FRASER, J. F., *Pictures from the Balkans*. 1906. With Illustrations. Price 6s. Cassell.

HOGARTH, D. G., *The Nearer East*. 1902. "Regions of the World" Series. Price 7s. 6d. net. Frowde.

The second half of the book is excellent, but the first part dealing with physical features and climate is unsatisfactory.

LAVELEYE, E. DE, *The Balkan Peninsula*. Translated by Mrs. Thorpe. 1887. Price 16s. Fisher Unwin.

Deals with Turkey, Bulgaria, Rumania, Servia, and Bosnia, particularly with the emergence of the ancient Balkan States from the power of Turkey.

LEHMANN, P., *Rumanien*. See Kirchhoff under Europe in General.

LYDE, F. W., and MOCKLER-FERRYMAN, LIEUT.-COL. A. F., *A Military Geography of the Balkan Peninsula*. 1905. Price 5s. Black.

Gives the historical-geographical aspect of the subject. Short and clear, with very good orographical maps.

MARTONNE, ED. DE, *La Valachie: Essai de Monographie Géographique*. 1902. Price 12s. Paris: Librairie Armand Colin.

A most satisfactory monograph—a combination of analytic and synthetic treatment. Excellent maps and illustrations.

PARTSCH, J., *Central Europe* (see p. 137).

Includes Rumania, Bulgaria, and Servia.

POPA-BURCA, I., *La Roumanie, 1866-1906; Bucarest, 1907*.

A useful official handbook to Rumania, issued by the Ministry of Agriculture, Industry, Commerce, and Domains.

SAMUELSON, J., *Bulgaria, Past and Present*. 1888.

Price 10s. 6d. Trübner.

— *Roumania, Past and Present*. 1882.

Price 7s. 6d. Longmans.

Well illustrated, and contain physical and historical maps of the country, but out of date as regards current conditions.

STURDZA, A. A., *La Race et la Terre Roumaines*. Maps and Illustrations. Price 20 fr. Paris: Laveur.

4. Denmark

BRÖCHNER, G., *Danish Life in Town and Country*. 1903.

Price 3s. 6d. Newnes.

Contains much useful information, but is less good than many others of the series.

HAHN, F., *Das Königreich Dänemark*. See Kirchhoff under Europe in General.

OTTÉ, E. C., *Denmark and Iceland*. Price 3s. 6d. Sampson Low.

5. France

BARRÉ, O., *L'Architecture du Sol de France*. 1903.

Price 12 fr. Paris: Librairie Armand Colin.

An account of the regional geomorphology of France and its borders. Indispensable for the student of geomorphology.

CHANTRIOT, E., *La Champagne: Étude de géographie régionale*. 1906.

Price 8 fr. Paris: Berger-Levrault.

DE GRENÉDAN, *Géographie Agricole de la France et du Monde*. 1893.

Paris.

An excellent account of the agricultural geography of France and its colonies, with a wide summary of world conditions.

DEMANGEON, A., *Les Sources de la Géographie de la France aux Archives Nationales*. 1905.

Paris.

Valuable for research work.

DEMANGEON, A., *La Plaine Picard et les Régions Voisines—Artois, Cambrésis, Beauvaisis*. 1905.

Price 12 fr. Paris: Librairie Armand Colin.

An excellent study of the chalk regions of Northern France.

DEMOLINS, E., *Les Français d'aujourd'hui*.

Price 3 fr. 50 c. Paris: Librairie Firmin-Didot.

An interesting study of the effect of the geography on the organisation of the community.

FELICE, R. DE, *La Basse-Normandie: Étude de Géographie Régionale*. 1907.

Price 12 fr. Paris: Hachette.

FÈVRE, J., and HAUSER, H., *Régions et Pays de France*. 1909.

Price 7 fr. Paris: Alcan and Guillaumin.

An excellent, clear, regional geography, with useful bibliography.

GALLOUEDEC, L., *La Loire: Étude de Fleuve*. 4 Maps and Diagrams. 1910.

Price 7 fr. 50 c. Paris: Hachette.

HAHN, F., *Frankreich*. See Kirchhoff under Europe in General.

LEBON, A., and PELET, P., *France as it is*. Specially written for English readers, and translated by Mrs. Wm. Arnold. 1888.

Price 7s. 6d. Cassell.

An excellent little text-book of France based on its geographical conditions.

LEVASSEUR, E., *La France et ses Colonies*. 1890-1. 3 vols.

Price 20s. Paris: Delagrave.

Elaborate geographical and economic statistics of the various departments of France, with diagrams and maps. Invaluable for reference, but not attractive reading.

LYNCH, H., *French Life in Town and Country*. 1901.

Price 3s. 6d. Newnes.

One of the best books dealing with French life. Should be read by every teacher giving lessons on France.

RECLUS, O., *La France à Vol d'Oiseau*. 1907. 2 vols.

Price 10 fr. Paris: Flammarion.

A very clear generalised account of the geographical conditions of each main division of France.

ROBERTS, M., *France*.

Price 3s. 6d. Sampson Low.

One of the series of "descriptive" handbooks.

SION, J., *Les Paysans de la Normandie Orientale*. Pays de Caux, Bray, Vexin, Normand, Vallées de la Seine. *Etude Géographique*. 1909.

Price 12 fr. Paris: Hachette.

VALLAUX, C., *La Basse-Bretagne: Étude de Géographie Humaine*. 1909.

Price 7 fr. 50 c. Paris: Cornély.

✓ VIDAL DE LA BLACHE, *Tableau de la Géographie de la France: Vol. I., Histoire de France depuis les origines jusqu'à la Révolution*. 1903.

Price 6 fr. Paris: Hachette.

An admirable book giving a very full regional treatment of the country. Every teacher who can read French should study it.

(See also "*French School-books*.")

6. German Empire

BARING-GOULD, S., *Germany*.

Price 3s. 6d. Sampson Low.

A descriptive handbook.

DAWSON, W. H., *German Life in Town and Country*. 1901.

Price 3s. 6d. Newnes.

A carefully written work.

HAHN, F., formerly KIRCHHOFF, A. (Editor), *Forschungen zur deutschen Landes- und Volkskunde*. Stuttgart: Engelhorn.

This work is published periodically in separate parts, each complete in itself. Many of the memoirs are models of geographical description, and are excellently illustrated by original maps and pictures. They deal either with distinct districts, or with special aspects. The list of these memoirs should be consulted in making any serious study of Germany.

HANDBUCH der Wirtschaftskunde Deutschlands. 1901-4.
4 vols.

Price 75s. Leipzig: Teubner.

Standard reference work for economic conditions.

142 GUIDE TO GEOGRAPHICAL BOOKS

MACDONELL, A. A., *Camping Voyages on German Rivers.*
1890. Price 10s. 6d. Stanford.

The rivers on which these voyages were made traverse a large part of Germany, and the descriptions give a good idea of the country.

MACKINDER, H. J., *The Rhine: Its Valley and its History.*
1908. With Illustrations in colour by Mrs. Jardine.
Price 20s. Chatto & Windus.

A splendid historical geography of the Rhine basin, with adequate coloured maps.

PARTSCH, J., *Central Europe.* Relevant parts (see p. 137).

— **Schlesien. Eine Landeskunde für das deutsches Volk.**
2 vols. Price 5 fr. each. Breslau : Hirt.
An admirable regional monograph.

PENCK, A., *Das deutsche Reich.* See Kirchhoff under Europe in General

RATZEL, FR., *Deutschland: Einführung in die Heimatkunde.*
1898. Price 2 M. 50 pf. Leipzig : Grünow.
A masterly elementary exposition of the geography of Germany.

7. Greece

BENT, J. T., *The Cyclades; or, Life among the Insular Greeks.*
1885. Price 12s. 6d. Longmans.
Deals with the present people and the ancient monuments of the Greek Islands.

MILLER, W., *Greek Life in Town and Country.* 1905.
Price 3s. 6d. Newnes.
Useful ; but not written from the geographical point of view.
(See also under "Balkan Peninsula.")

SERGEANT, L., *Greece.* 1882. Price 3s. 6d. Sampson Low.
A descriptive handbook.

TOZER, H. F., *Lectures on the Geography of Greece.* 1873.
Price 9s. Murray.
These lectures bring out admirably the relations of the geography of Greece to its history.

8. Holland and Belgium

BLANCHARD, RAOUL, *LA FLANDRE, Étude Géographique de la Plaine Flamande en France, Belgique, et Hollande.* 1906.
Price 12 fr. Paris : Librairie Armand Colin.
An excellent regional monograph.

- BOULGER, D. C., Belgian Life in Town and Country.** 1904.
Price 3s. 6d. Newnes.
Though it has no geographical description of the country, gives a good account of the economic condition of Belgium.
- HOUGH, P. M., Dutch Life in Town and Country.** 1901.
Price 3s. 6d. Newnes.
Useful.
- MAHAFFY, J. P., and ROGERS, J. E., Sketches from a Tour through Holland and Germany.** 1889.
Price 10s. 6d. Macmillan.
Deals with parts of these countries not often described.
- PARTSCH, J., Central Europe.** Relevant parts (see p. 137).
- PENCK, A., Niederlande und Belgien.** See Kirchhoff under Europe in General.

9. Iceland

- BISIKER, W., Across Iceland.** 1902. Price 12s. 6d. Arnold.
An account of a journey taken over little known and unexplored parts of the island, to study the geography, geology, and flora. Written in an easy style, and illustrated with good maps and photographs.
- COLES, J., Summer Travelling in Iceland.** Price 18s. Murray.
By the Royal Geographical Society's late Instructor for travellers.
- DUFFERIN, LORD, Letters from High Latitudes.**
Price 7s. 6d. Murray.
- THORODDSEN, TH., Island: Grundriss der Geographie und Geologie.** Petermann's Mitteilungen, Ergänzungshefte Nos. 152 and 153. 1906. Price 22 M. Gotha: Perthes.
The standard work on Iceland, with two fine maps, physical and geological.

10. Italy

- DEECKE, PROF. W., Italy.** 1904.
Price 15s. Swan Sonnenschein.
A very detailed work, dealing with the history as well as the geography.
- FISCHER, T.** See Balkan P.
- LANCIANI, R., Wanderings in the Roman Campagna.** Maps and Illustrations. 1909. Price 21s. net. Constable.
An excellent book, though the interest is largely archaeological.
- MACDONELL, A. M., The Abruzzi.** Map and Illustrations. 1908. Price 6s. Chatto & Windus.
- MYRES, J. L., History of Rome.** Rivington, 1902.
The opening chapter of this book contains one of the best outlines of the geography of Italy as far as it has affected its history.

144 GUIDE TO GEOGRAPHICAL BOOKS

VILLARI, L., *Italian Life in Town and Country*. 1902.
Price 2s. 6d. Newnes.

A pleasant account of the manners and customs of the people, but scarcely mentions the nature of the country.

11. Portugal

CARNARVON, EARL OF, *Portugal and Galicia*.
Price 3s. 6d. Murray.

Accounts of travels in 1827.

CRAWFURD, O., *Round the Calendar in Portugal*. 1890.
Price 21s. Chapman & Hall.

A capital description of rural life in Portugal.

HUME, MARTIN, *Through Portugal*. 1907.
Price 5s. net. Grant Richards.

Though dwelling largely on the historical aspect, this book gives vivid pictures of the country, its scenery, and nature of its cultivation.

12. Russia

BONMARIAGE, DR. A., *La Russie d'Europe: Topographie, Relief, Géologie, Hydrologie, Climatologie, Régions Naturelles; les peuples et leur mode de répartition*. 1903.
Price 20 fr. Bruxelles: Spineux.

Very well illustrated. Comprehensive as the sub-title shows, and exceedingly interesting.

FINLAND in the 19th Century, by Finnish Authors. 1894.
Price ca. 25s. Helsingfors: Tilmann.

A monumental work, specially illustrated, dealing with all aspects of life in Finland.

HAKLUYT, R., *Discovery of Muscovy*. Price 3d. and 6d. Cassell.
Early exploration and adventure.

INDUSTRIES of Russia, translated by J. M. Crawford. 5 vols.
With many Maps. 1893. St. Petersburg.

A most valuable series of treatises, giving a complete account of the resources of Russia, prepared officially for the Chicago World's Fair. They may be consulted in a library.

KRASSNOW, G. v., & WOEIKOF, A., *Russland*. See Kirchhoff under Europe in General.

MORFILL, W. R., *Russia*. Price 3s. 6d. Sampson Low.
A descriptive handbook.

PALMER, F. H. E., *Russian Life in Town and Country*. 1901
Price 3s. 6d. Newnes.

An interesting little book which emphasises well the great effect of the climate on the life of Russia.

RAE, E., *White Sea Peninsula*. Price 15s. Murray.
A lively account of travels in Lapland in 1881.

REIN, J., *Finland*. See Kirchhoff under Europe in General.

TREVOR-BATTYE, A., *A Northern Highway of the Tsar*. 1898.
Price 6s. Constable.

A vivid account of a journey from Kolgoviev to Archangel, up the Pechora River, and across the Tundra. Interesting picture of the conditions of life in the isolated Tundra towns and villages.

WALLACE, SIR D. MACKENZIE. *Russia*.

A new and enlarged edition in two volumes. 1905. With Maps.
Price 24s. Cassell.

This gives the best general account of Russia and the Russians that has appeared in the English language.

WOEIKOF, A., *Russland*. See Kirchhoff under Europe in General.

13. Scandinavia—Norway and Sweden

DU CHAILLU, PAUL, *The Land of the Midnight Sun*. 1881.
2 vols. Price 36s. Murray.

A remarkably minute and graphic description of scenes and life in Norway and Sweden.

GOODMAN, E. J., *The Best Tour in Norway*. 1892.
Price 7s. 6d. Sampson Low.

Description of a modern tour.

HAHN, F., *Schweden und Norwegen*. See Kirchhoff under Europe in General.

HEIDENSTAM, O. G. VON, *Swedish Life in Town and Country*. 1905. Price 3s. 6d. Newnes.

Very good, with a specially useful and suggestive introductory chapter on the land and the people.

KEARY, C. F., *Norway and the Norwegians*. 1892.
Price 5s. Percival & Co.

NORWAY: Official publication for the Paris Exhibition, 1900.
Price 8s. 6d. Kristiania.

A standard work, with many maps and illustrations.

RABOT, CH., *Au Cap Nord*. 1898. Price 4 fr. Paris.
Charming descriptions of the country (Norway, Sweden, and Finland) and people, with excellent illustrations.

RUGE, SOPHUS, *Norwegen (Land und Leute, Monographien zur Erdkunde)*. 1899. Price 3 M. Leipzig.

Gives a vivid picture of Norway and its people, the character of its landscape, and the climatic and economic conditions of the country. Well illustrated.

146 GUIDE TO GEOGRAPHICAL BOOKS

SWEDEN : Its People and Industry. Published for the Paris Exhibition, 1900; translated, with some additions, 1904.

Price 25s.

The only handbook on the country. Very comprehensive, and with many illustrations.

14. Spain

BARING-GOULD, S., A Book of the Pyrenees. 1907.

Price 6s. Methuen.

BELLOC, H., The Pyrenees. 1909.

Price 15s. Methuen.

The geography of the Pyrenees is most clearly explained, with maps and diagrams.

BORROW, G., The Bible in Spain. Many editions. Murray, 3s. 6d. and 2s.; Nelson, 4s.; Longmans, 3s. 6d.; Ward, Lock & Co., 2s.

A thrilling narrative of travel and adventure in Spain as it was in 1835.

CAYLEY, G. T., The Bridle Roads of Spain or Las Alforjas. (Reprint originally published 1853.) 1908.

Price 7s. 6d. Fisher Unwin.

CHAPMAN and BUCK, Wild Spain. 1893.

Price 21s. Gurney & Jackson.

Gives a striking account of the modern conditions of rural Spain.

FISCHER, T. See Balkan P.

FORD, R., Gatherings from Spain.

Price 3s. 6d. Murray.

GADOW, H., In Northern Spain. Map and illustrations. 1897.

Price 21s. A. & C. Black.

HIGGIN, L., Spanish Life in Town and Country. 1902.

Price 3s. 6d. Newnes.

Much interesting information can be gained from this, and it is welcome in the dearth of easily accessible books on Spanish geography, but is not good from the geographical point of view.

LUFFMANN, C. B., A Vagabond in Spain.

Price 6s. Murray.

An account of a journey on foot in 1893.

MEAKIN, A., Galicia, the Switzerland of Spain. Map and illustrations. 1909.

Price 12s. 6d. net. Methuen.

An interesting and thoroughly reliable account of this north-western corner of Spain.

WORKMAN, W. H. and F. B., Sketches Awheel in Fin-de-Siècle Iberia. 1897.

Price 6s. Fisher Unwin.

Though slight, these sketches show an aspect of Spain and Spanish life that is not found in the more thorough works on the country.

- ZIMMERMAN, J., *Spain and her People*. 1906. Illustrated.
Price. 12s. 6d. Fisher Unwin.

A slight but interesting account of the country by an American observer who has travelled over a good deal of ground.

15. Switzerland and the Alps

- AVEBURY, LORD, *The Scenery of Switzerland, and the Causes to which it is due*. 1896. Price 6s. Macmillan.

The scenery of Switzerland is here described to illustrate the physical geography of the region. There are numerous diagrams.

- BAKER, F. G., *The Model Republic: A History of the Rise and Progress of the Swiss People*. 1895.

Price 10s. 6d. net. Nichols & Co.

An historical account of Switzerland, which helps to explain the relation of the land to the people.

- CONWAY, SIR MARTIN, *The Alps from End to End*. 1895. Price 15s. Constable.

This account of a tour right through the Alpine system gives a good idea of the various groups of the Alps and their passes.

- COOLIDGE, W. A. B., *The Alps in Nature and History*. 1908. Price 7s. 6d. net. Methuen.

A fascinating book by one of the greatest authorities on the Alps.

- EGLI, J. J., *Die Schweiz*. See Kirchhoff under Europe in General.

- PARTSCH, J., *Central Europe*. Relevant parts (see p. 137).

- STORY, A. T., *Swiss Life in Town and Country*. 1902. Price 3s. 6d. Newnes.

An interesting little study in social geography.

16. Turkey

- BAKER, J., *Turkey in Europe*. 1877. Price 21s. Cassell.
Gives an account of several journeys.

- ELIOT, SIR CHARLES, *Turkey in Europe*. New Edition, 1908. Price 7s. 6d. net. Arnold.

One of the best accounts of the state of affairs—social, economic, and political—in the Balkan Peninsula in the past and present.

- GARNETT, L., *Turkish Life in Town and Country*. 1904. Price 3s. 6d. Newnes.

Entirely historical, but useful as raw material for the geographer.

- TOZER, H. F., *Researches in the Highlands of Turkey*. 1869. 2 vols. Price 24s. Murray.

CHAPTER XIII

THE GEOGRAPHY OF ASIA

THE best concise account of the physical geography of Asia is that given by Prince Kropotkin in the article "Asia" in *Chambers's Encyclopædia*. It shows a thorough mastery of the principles of geography, and, apart from its intrinsic interest as a description of Asia, it is worth reading as a model geographical monograph. The interior of Asia is the subject of innumerable papers in geographical journals, and for some time to come important results may be looked for from the explorers who penetrate the Himalayas and the vast plateau of Tibet. The development of Siberia by means of the great trans-continental railway, and the political events in which the Chinese and Japanese Empires play a part, have led to the publication in reviews and magazines of many articles on parts of Asia previously little known. The literature of Asia, large though it is in the languages of Western Europe, is relatively greater in Russian; and it unfortunately happens that many important records remain unknown to Western geographers.

A great part of the literature of the Malay Archipelago is written in Dutch, and much historical matter concerning India, Ceylon, and the Far East in Portuguese, languages which also find few readers in England.

It is worth while to draw attention to the difference between the results of modern exploration in Asia, compared with those in the other continents. Discovery

in Asia is for the most part re-discovery of sites and routes famous in history, but obliterated by the course of events. For a time Asia Minor was the chief centre of energetic re-discovery, but, as access to the heart of Asia became easier, the relics of the ancient peoples who once inhabited vast regions now desert have been searched for no less eagerly.

It must be remembered, however, that ancient Asia is dead, and that the ancient geography helps but little to elucidate the modern condition of things in that continent. Nowhere else does the importance of climate appear so prominently in relation to land forms and to people; hence, in learning the geography of India, for example, too much stress cannot well be laid upon the monsoons, and the consequent distribution of rainfall. On the other hand, the predominance in Asia of the three European Powers, Britain, Russia, and France, in the south, the north, and the south-east respectively, supplies a set of conditions unlike those found in any other continent; and it is to this predominance of European Powers and the development of Japan that the full and fairly satisfactory geographical literature of Asia is to be ascribed.

In studying the geography of Asia, the difficulty of recognising place-names in different spellings is sometimes serious. Apart from the problem of rendering in any consistent phonetic form Chinese names which are unpronounceable by Europeans, and the minor confusion as to where to draw the line of familiarity which justifies the retention of old spellings of Indian names in place of the Hunterian forms, there is an unsettled controversy about the treatment of Oriental alphabets. Many experts recommend that the Persian and Arabic alphabets should be transliterated so that the original spelling, and not the sound alone, should be represented in Roman letters. The attempt to do this involves the use of various diacritical

marks, which, while useful to the Oriental scholar, are stumbling-blocks to the ordinary reader, who cannot be expected to know how, for instance, the sound of *ṭ* and *ṣ* should be made to differ from *t* and *s*. In this connection teachers should be warned against looking on any consistent spelling of Oriental names as "right" or "wrong" in itself; but it need hardly be observed that if a place-name is spelt in different ways in the same book, except in acknowledged quotations, it proves carelessness on the part of the author.

The boundaries of Asia are assumed to be the political boundary between European and Asiatic Russia on the west (the islands of the *Ægean* Sea belonging nominally or actually to Turkey being included), and on the south-east the boundary is drawn so as to include the whole Malay Archipelago, including the Philippines, but excluding New Guinea and the Caroline Islands. The Russian Islands in the Bering Sea are included in Asia, the Alaskan Islands in America, while the New Siberian Islands are considered as in the Arctic Regions. These are largely arbitrary distinctions; other boundaries may with equal appropriateness be adopted by other writers.

BOOKS ON ASIA

1. General

BURNES, SIR A., *Travels into Bokhara: Being the Account of a Journey from India to Cabool, Tartary, and Persia.* 1834.

Price 18s. Murray.

Valuable as an account of one of the first journeys beyond the North-Western Frontier of India.

COLQUHOUN, A. R., *China in Transformation.* 1898.

Price ca. 16s. Harper.

Well worth reading for the comprehensive geographical description. The political and statistical information is, of course, somewhat out of date. It has some useful maps.

— *The "Overland" to China.* 1900. With Illustrations and Maps.

Price 16s. Harper & Brothers.

Though written before the Siberian Railway was quite finished, this book is still valuable. It describes in an intimate and interesting manner the Chinese Empire as well as Russian Asia, giving the essential points of the history of each country, and elucidating the various factors, geographical and human, at work in the development of these vast regions.

GUILLEMARD, F. H. H., *The Cruise of the "Marchesa" to Kam-schatka and New Guinea: With Notices of Formosa, Liu-Kiu, and various Islands of the Malay Archipelago.* 1886. 2 vols.

Price 21s. Murray.

An admirable account of a yacht voyage undertaken largely with geographical aims.

*HERBERTSON, A. J. and F. D., *Asia: Descriptive Geography.* 1903.

Price 2s. 6d. Black.

The bibliography should be consulted for many books and papers not mentioned here.

*HERBERTSON, F. D., *Elementary Geography of Asia.*

See in "General" Section.

HOGARTH, D. G., *The Nearer East.* (See p. 138.)

Includes Asia Minor, Armenia, Arabia, and Persia.

152 GUIDE TO GEOGRAPHICAL BOOKS

HUNTINGTON, E., *The Pulse of Asia*. Maps and Illustrations 1907. Price 14s. net. Constable.

Especially interesting on the effect of the geography of Central Asia on history and the development of the continent.

KEANE, A. H., *Asia*. 2 vols. Vol. I., New Issue, 1906. Vol. II., New Issue, 1909. Price 30s. Stanford.

This forms part of Stanford's *Compendium of Geography and Travel*, and is the most useful English book on Asia.

LITTLE, A., *The Far East*. 1905. "Regions of the World" Series. Price 7s. 6d. Oxford: Clarendon Press.

More descriptive and less scientific than the others of the series. The most useful book for a teacher to consult about China.

NORDENSKIÖLD, A. E., *The Voyage of the "Vega" round Asia and Europe*. 1881. 2 vols.

Price 45s. Also Abridged Edition, price 6s. Macmillan.

This work describes the only circumnavigation of Europe and Asia ever made.

*REYNOLDS, J. B., *Asia*.

See in "General" Section.

RONALDSHAY, EARL OF, *On the Outskirts of Empire in Asia*. 1904. Price 21s. net. Blackwood.

The most valuable portions deal with the less-known west of the continent—Asia Minor, Persia, Trans-Caspia, and Turkestan as far as the Tian-shan. It contains also an account of a journey along the Siberian railway. The illustrations are good.

SIEVERS, W., *Asien*. Second Edition, 1904.

Price 15M. Leipzig: Bibliographisches Institut.

The Asiatic volume of Sievers' *Länderkunde*.

2. Afghanistan

BURNES, SIR A., *Cabool: A Personal Narrative of a Journey to and Residence in that City in 1836-8*. 1843.

Price 18s. Murray.

HOLDICH, COL. SIR T. H., *The Indian Borderland*. 1901. With 22 Illustrations and a Map.

Price 10s. 6d. net. Methuen.

A most interesting description of the Afghan and Baluch highlands and their economic conditions.

— *The Gates of India*. 1910. Price 10s. net. Macmillan.

The history of exploration in Afghanistan and neighbouring parts of Central Asia.

ROBERTSON, SIR G. S., *The Kafirs of the Hindu-Kush*. 1896.

Price 31s. 6d. Lawrence & Bullen.

Describes one of the most remarkable primitive communities in the world, the people retaining the characteristics observed in them many centuries ago.

YATE, C. E., *Northern Afghanistan*. 1888.

Price 18s. Blackwood.

An account of travels in Afghanistan by a British officer during the delimitation of the "scientific frontier" with Russia.

— *Khurasan and Sistan*. 1901.

Price 21s. Blackwood.

3. Ceylon

BAKER, SIR S., *Eight Years' Wanderings in Ceylon*.

Price 3s. 6d. Longmans.

This describes Ceylon in 1845-53.

CAVE, H. W., *Picturesque Ceylon*. 3 vols.

Price 77s. Sampson Low.

The numerous photographic illustrations by the author are of quite exceptional beauty.

FERGUSON, J., *Ceylon in 1893*. 1893.

Price 7s. 6d. Haddon & Co.

By a practical man of great experience; a safe guide to the present condition of the island.

HAECKEL, E., *A Visit to Ceylon*. 1883.

Price 7s. 6d. Kegan Paul.

Very picturesque and sympathetic descriptions of tropical nature by a man of science.

4. Chinese Empire

BISHOP, MRS., *A Journey in Western Sze-Chuan*.

Geographical Journal, July, 1897.

A very interesting and vivid paper on part of the important, though inaccessible Red Basin of China.

— *The Yangtze Valley and Beyond*. 1899. Price 21s. Murray.

Most interesting, as are all Mrs. Bishop's accounts of her travels. Though the whole of the Great Basin is described, the chief space is devoted to the Province of Sze-Chuan.

BLAKISTON, T. W., *Five Months on the Yang-Tsze: With a Narrative of the Exploration of its Upper Waters*. 1862.

Price 18s. Murray.

A most interesting account of the earliest voyage to the Upper Yang-tse after it was opened to Europeans.

154 GUIDE TO GEOGRAPHICAL BOOKS

CANDLER, E., *The Unveiling of Lhasa.* 1905.

Price 15s. Arnold.

Gives a vivid picture of the country, but is of less geographical value than Col. Waddell's book on Lhasa.

CHISHOLM, G. C., *Resources and Means of Communication of China.* Geographical Journal, November, 1898.

Contains most valuable information not easily obtained elsewhere.

DEASY, CAPT. H. H. P., *Journeys in Central Asia.*

Geographical Journal, August and November, 1900.

A short account of important journeys in Tibet.

GILL, W., *The River of Golden Sand: Being an Account of a Journey through China and Eastern Tibet to Burnah.* Condensed by E. C. Baber. 1883. Price 7s. 6d. Murray.

The journey was made in 1879, and this edition contains a memoir of the author and revised geographical introduction by Sir H. Yule.

GILMOUR, J., *Among the Mongols.* 1888.

Price 3s. 6d. Religious Tract Society.

— ***More about the Mongols.* 1893.**

Price 5s. Religious Tract Society.

Remarkably vivid impressions of Northern China and Mongolia acquired during years of missionary travel.

GRENARD, F., *Tibet: the Country and its Inhabitants.*

Price 10s. 6d. net. Hutchinson.

By the French traveller who crossed Tibet in various directions.

HEDIN, SVEN, *Through Asia.* 1898. 2 vols.

Methuen.

An account of the author's important journeys, 1893-7, during which he paid special attention to the geography of the Gobi Desert and the complicated Tarim river system. The book is unfortunately out of print.

— ***Adventures in Tibet.* 1904.**

Price 10s. 6d. Hurst & Blackett.

An account of his journey across the Central Asian desert, starting along the Tarim Valley, thence across the Takla-Makan, and up on to the Tibetan Plateau. The author made two unsuccessful attempts to enter Lhasa.

— ***Trans-Himalaya. Discoveries and Adventures in Tibet.* 2 vols. 1909.** Price 30s. net. Macmillan.

This expedition has added considerably to our knowledge of the general topography of Western and Central Tibet, its mountain ranges and valleys. The account of it is very interesting.

HOLDICH, SIR T., *Tibet the Mysterious: Story of Exploration.* 1906. Price 7s. 6d. Alston Rivers,

The best account of the general geography of Tibet.

- HOSIE, A., Manchuria: Its People, Resources, and Recent History.** 1901. Price 7s. 6d. Methuen.

The latter half of the book has some useful information about the physical features, products, and trade of the country, though not given in a very interesting manner.

- HUC, E. R., Recollections of a Journey through Tartary, Tibet, and China in 1844-6.** Translated 1852. New Cheap Edition. Price 1s. Nelson.

The travels of the Abbé Huc deserve in many respects to stand beside those of Marco Polo. Both were at one time believed to be largely fabulous, but subsequent explorations have proved that both were substantially correct, being the intelligent observations of honest men.

- JOHNSTON, R. F., From Peking to Mandalay: A Journey from North China to Burma through the Tibetan Ssuehuan and Yunnan.** 1908. Price 15s. net. Murray.

A very interesting book, giving an excellent account of the Northern Plain of China and the wild region between the Yangtze and Lower Burma, with their economic development.

- LANDON, P., Lhasa: An Account of the Country and People of Central Tibet, and of the Progress of the Mission sent there by the English Government, 1903-4.** 1905. 2 vols. Price 42s. net. Hurst & Blackett.

Also a cheaper edition in 1 vol. Price 10s. 6d.

A most vivid description of the country crossed by the recent Mission to Tibet, giving a real impression of the nature and life of that isolated region, with its wonderful all-powerful centre—Lhasa.

- LESDAIN, COUNT DE, From Peking to Sikkim: Through the Ordos, the Gobi Desert, and Tibet.** 1908. Price 12s. net. Murray.

This contains more of geographical interest than most "travel" books. The author crossed Tibet from north to south.

- MARKOFF, DR. A., Towns of Northern Mongolia.** Scottish Geographical Magazine, February, 1896. Accurate descriptions of the three chief towns of Northern Mongolia—Urga, Uliasutai, and Kobdo.

- MARTIN, W. A. P., A Cycle of Cathay; or, China South and North.** 1896. Price 7s. 6d. Oliphant, Anderson, & Ferrier.

A recent and trustworthy record of impressions of China and the Chinese by a resident in the country. Illustrated by some of the unrivalled photographs of Mr. John Thomson.

- PREJEVALSKY, N., Mongolia, the Tangut Country, and Solitudes of Northern Tibet: A Narrative of Three Years' Travel.** Translated by E. Delmar Morgan. 1876. 2 vols. Price 42s. Sampson Low.

156 GUIDE TO GEOGRAPHICAL BOOKS

PREJEVALSKY, N., From Kulja across the Tian Shan to Lob-Nor. 1879. Translated by E. Delmar Morgan and Sir Douglas Forsyth. Price 15s. Sampson Low.

Two of the most striking modern journeys in Central Asia, by the most celebrated Russian explorer.

RAWLING, C. G., The Great Plateau. 1905. Price 15s. Arnold.
Exploration in Western Tibet.

RECLUS, E. and O., L'Empire du Milieu: Le climat, le sol, les races, la richesse de la Chine. 1902.

Price *ca.* 10 fr. Paris: Hachette.

A most interesting and comprehensive book, with a very valuable chapter on the Far East in general. Excellent maps.

RICHTHOFEN, BARON F. VON, China [in German]. 3 vols. Published since 1877. Price *ca.* 100s. Berlin: Reimer.

The standard work on China from a purely geographical standpoint. The maps and diagrams are of great value.

ROCKHILL, W. W., The Land of the Lamas. 1891.

Price 15s. Longmans.

Conveys an excellent idea of Tibet, and the mode of travelling there.

SANDBERG, G., Tibet and the Tibetans. 1906.

Price 5s. S.P.C.K.

A very well compiled account of the scenery, climate, and customs of Tibet, which should be useful to the teacher, as so little is available in a cheap form about the country.

SMITH, A. DONALDSON, A Journey through the Khingan Mountains from Peking to Tsitsihar.

Geographical Journal, May, 1898.

Contains valuable information about the western uplands and mountains of Manchuria.

WADDELL, L. A., Lhasa and its Mysteries: An Account of the British Mission to Lhasa, 1903-4. 1905.

Price 2rs. net. Murray.

Also a cheaper edition. Price 7s. 6d. net.

Gives an excellent idea of the country between Lhasa and the Himalayas. Has some good maps, including one of the physical divisions of Tibet, of special interest, and many illustrations.

WILLIAMS, S. W., The Middle Kingdom (China). 1883. 2 vols.

Price 42s. Allen.

A systematic treatise on China.

YOUNGHUSBAND, F., The Heart of a Continent: Manchuria, Turkestan, and the Pamirs. 1903. New cheap edition.

Price 6s. Murray.

Admirable descriptions of Asiatic scenes and adventures; a very stimulating narrative of travels.

5. French Indo-China

BOUINAIS, A., and PAULUS, H., *La France en Indo-Chine*.
1890. Price *ca.* 3s. Challamel.

PETIT, M., *Les Colonies Françaises*. Vol. II. 1902.
Paris : Librairie Larousse.

THE FRENCH IN INDO-CHINA. Price 2s. Nelson.

WINGATE, A. M. S., *Journey from Shanghai to Bhamo*.
Geographical Journal, December, 1899.

This gives an interesting account of a route across the difficult country
between India and China.

6. Indian Empire

ALCOCK, A., *A Naturalist in Indian Seas*. 1902.
Price 18s. net. Murray.

BARTHOLOMEW, J. G., *Hand Atlas of India*. 1893.
Price 14s. Constable.

A convenient little atlas, with a large scale map of India in sections,
and plans of the chief towns.

BERNIER'S *Travels in the Mogul Empire*. 1891. New Edition
by A. Constable. Price 6s. net. Constable.

A beautiful edition of a very interesting work, descriptive of the
Mogul Empire as seen in 1656-68.

*BLANFORD, H. F., *An Elementary Geography of India, Burma,
and Ceylon*. Second Edition, revised. Price 2s. 6d. Macmillan.
One of Macmillan's geographical series of school books.

CLIFFORD, HUGH, *Further India*. "Story of Exploration"
Series. 1904. Price 7s. 6d. Lawrence & Bullen.

A brilliantly written account of the exploration, but treated chiefly
from the historical point of view.

CLIMATOLOGICAL *Atlas of India*. Issued by the Indian
Meteorological Department. 1906.

Price 36s. To be obtained through Bartholomew & Co., Edinburgh.
The most complete meteorological atlas yet published.

COMPTON, HERBERT, *Indian Life in Town and Country*.
"Our Empire" Series. Price 3s. 6d.

Very graphic description of the land and its life.

FORREST, G. W., *The Cities of India, Past and Present*. 1905.
Price 5s. net. Constable.

A descriptive and historical account of the chief cities, illustrated.

158 GUIDE TO GEOGRAPHICAL BOOKS

GORE, F. ST. J., Lights and Shades of Indian Hill Life. 1895.
Price 31s. 6d. Murray.

A book of rare excellence. The illustrations are particularly well chosen and finely reproduced.

HOLDICH, SIR T. H., India. 1904. Price 7s. 6d. Frowde.

One of the "Regions of the World" Series. Especially full on the geography of the North-West Frontier.

— **The North-West Frontier of India.**

Geographical Journal, May, 1901.

HOOKE, SIR J. D., Himalayan Journals.

Price 2s. Ward, Lock, & Co.

Fascinating account of the travels of a botanist in the Himalayas nearly sixty years ago.

HUNTER, SIR W. W., A Brief History of the Indian Peoples.
Twenty-third Edition, 1905.

Price 3s. 6d. Oxford: Clarendon Press.

An admirable epitome of the larger work.

— **A School History and Geography of Northern India.** 1891.

Price 2s. Frowde.

Treats of Bengal and the Northern Provinces; designed for Indian schools.

— **Imperial Gazetteer of India.** 1907-9. 26 vols. New Edition,
edited by Meyer, C.I.E., Burn, R., and Cotton, J. S. 1907.

Price 100s. net. Oxford: Clarendon Press.

The standard work, embodying the official spelling. The first four volumes should be in the school library. The first volume is of special interest to geographers. The last volume is a handy atlas.

KNIGHT, E. F., Where Three Empires Meet. Third Edition. 1893.

Price 3s. 6d. Longmans.

Full of thrilling adventures in recent frontier warfare, and realistic studies of places and peoples on the North-West Frontier.

LANDON, P., Under the Sun. 1906.

Price 12s. 6d. net. Hurst & Blackett.

A well illustrated book, showing the widely different local colour that distinguishes one Indian city from another.

LAWRENCE, W. R., Kashmir. 1895. Price 12s. net. Frowde.

A book of exceeding interest by one who knows the country well. The illustrations are very beautiful.

LOW, SYDNEY, A Vision of India. 1906.

Price 10s. 6d. Smith, Elder & Co.

One of the best of recent works on India.

LYALL, SIR A., The Rise of the British Dominion in India.
1893.

Price 4s. 6d. Murray.

An original, concise, and interesting history.

MORRISON, CAMERON, A New Geography of the Indian Empire. 1906. Price R1. net. Nelson.

A good text-book, well put together. Rather too full for a class-book ; more useful as a book of reference for the teacher.

STATISTICAL ATLAS OF INDIA. 1895.

Price 5s. Calcutta. To be procured from E. Stanford.

A useful series of diagrammatic maps, with explanatory text.

THOMSON, T., Western Himalaya and Tibet : A Narrative of a Journey through the Mountains of Northern India in 1847-8. 1852. Price 15s. Reeve & Co.

Dr. Thomson was the first Englishman to reach the Karakoram Pass.

WILSON, A., The Abode of Snow: Observations on a Journey from Chinese Tibet to the Indian Caucasus through the Upper Valleys of the Himalaya. 1875. Price 10s. 6d. Blackwood.

Very brightly written, giving an excellent idea of the Himalayan region.

WORKMAN, W. H. and F. B., Through Jungle and Town : Fourteen thousand miles Awheel among the Temples and People of the Indian Plain. 1904. With Map and Illustrations.

Price ca. 16s. Fisher Unwin.

This tour covers the whole length of Peninsula India. The account furnishes interesting sketches of the country and the every-day life of the people.

7. Japanese Empire

BATCHELOR, J., The Ainu of Japan. 1892.

Price 6s. Religious Tract Society.

On the aboriginal people of Yezo.

BISHOP, MRS., Unbeaten Tracks in Japan. New Edition, 1900.

Price 2s. 6d. Newnes.

Welcome information on little-known parts of Japan (mostly in the north) and its people, both Japanese and Ainu.

DAVIDSON, J. W., The Island of Formosa, Past and Present. 1903. Price 25s. net. Macmillan.

An admirable account of the geography, history, and resources of the island.

DYER, H., Dai Nippon: The Britain of the East. A Study in National Evolution. 1904. Price 12s. 6d. net. Blackie.

One of the most thoughtful works on Japan.

JAPAN in the Beginning of the Twentieth Century. Compiled by the Department of Agriculture and Commerce. 1904.

Price 25s. net. Murray.

A mine of information on all matters connected with the geography and economy of Japan. Unfortunately it has no map.

160 GUIDE TO GEOGRAPHICAL BOOKS

***MITFORD, C. B., A New Geography of Japan.** 1906.

Yokohama: Printed and published by the Japan Gazette Press.

Gives more detail than the ordinary text-book. Its subject is good, but the method of presentment rather conventional.

REIN, J. J., Japan: Travels and Researches undertaken at the cost of the Prussian Government. 1884.

Price 25s. Hodder & Stoughton.

A translation of Vol. I. of Rein's great German work on Japan, which is a standard authority. A new edition of the German work has recently been published.

STEAD, A. (Editor), Japan by the Japanese. 1904.

Price 20s. net. Heinemann.

The chapters in this book are written by high Japanese authorities.

TRISTRAM, CANON, Rambles in Japan. Illustrations by E. Whymper.

Price 10s. 6d. Religious Tract Society.

From the point of view of a naturalist interested in the Church of England Missions.

WESTON, W., The Japanese Alps. 1896. Price 21s. Murray.

Contains much interesting information on the mountains and rural people of Japan.

8. Korea

BISHOP, MRS., Korea and her Neighbours. 1898. Cheap Edition.

Price 5s. Murray.

An invaluable and intensely interesting book on the subject.

CAVENDISH, A. E. J., Korea and the Sacred White Mountain. 1894.

Price 25s. Philip.

Contains fine sketches of Korean life, many of them in colours, by native artists.

GRIFFIS, W. E., Corea, the Hermit Nation. Seventh Edition. 1904.

Price 18s. Allan.

HAMILTON, A., Korea. 1904.

Price 15s. net. Heinemann.

Contains an interesting, discursive account of the country, and a useful map on a fairly large scale.

9. Malay Peninsula and Archipelago

ANNANDALE, N., Siamese Malay States.

Scottish Geographical Magazine, September, 1900.

Full of interesting details and descriptions, but gives a less systematic account than Mr. Clifford's paper.

BECCARI, O., Wanderings in the Great Forests of Borneo.

Translated by E. H. Goglioli, revised and edited by Guilmard.

1904.

Price 16s. net. Constable.

CLIFFORD, H., Journey through the Malay States.

Geographical Journal, January, 1897.

This deals with the eastern side of the Peninsula.

FORBES, H. O., A Naturalist's Wanderings in the Eastern Archipelago from 1878 to 1883. 1885.

Price 21s. Sampson Low.

The wanderings of the author included most of the larger islands of the archipelago, and the book forms in a sense a supplement to that of Dr. A. R. Wallace.

FORMAN, J., The Philippine Islands. Second Edition, 1899.

Price 21s. Sampson Low.

A standard authority for geographical, historical, and ethnographical data.

GRAHAM, W. A., Kelantan—A State of the Malay Peninsula. A handbook of information. 1908.

Price 5s. net. Glasgow: Maclehose.

A short, clear account of the country and the latest information about its economic development.

GRINDROD, MRS., Siam. 1895.

Price 5s. net. Stanford.

An effort to present the geographical features of Siam in an orderly manner, especially intended for Siamese students studying in England.

GUILLEMARD, F. H. H., Malaysia and the Pacific Archipelagoes (Australasia, Vol. II). New Edition, 1908, revised by A. H. Keane. Price 15s. Stanford.

A volume of Stanford's *Compendium*, and the best systematic account of the geography of the Malay Archipelago in English.

HOSE, C., In the Heart of Borneo.

Geographical Journal, July, 1900.

This is almost the only description of the central part of Borneo. It contains some interesting accounts of the native tribes of the region.

LANDOR, H. SAVAGE, The Gems of the East. 1904. 2 vols.

Price 42s. Macmillan.

Gives a very vivid impression of the nature of the Philippine Islands, and the economy of life there. Many illustrations.

SMYTH, H. W., Journeys in the Siamese East Coast States.

Geographical Journal, May, 1898.

An excellent idea of parts of the Malay Peninsula may be gained from this paper.

— Five Years in Siam. Maps and Illustrations. 1898. 2 vols.

Price 24s. Murray.

WALLACE, A. R., *The Malay Archipelago, the Land of the Orang-utan and the Bird of Paradise: A Narrative of Travel, with Studies of Man and Nature.* New Edition, 1890.

Price 7s. 6d. Macmillan.

A model work of scientific travel, which can never be superseded. It was revised by the author in 1890, and references to recent travellers added. The journeys took place between 1854 and 1862.

WORCESTER, DEAN C., *The Philippine Islands and their People.* A record of personal observation and experience. 1898.

Price 15s. net. Macmillan.

A very interesting and authoritative account of the islands, written just before the American occupation.

YOUNG, E., *Kingdom of the Yellow Robe.* 1898.

10. Persia

BISHOP, MRS. I., *Journeys in Persia and Kurdistan.* 1891.

Price 24s. Murray.

An account of a journey through the least known part of Central Persia, and across Kurdistan to the Black Sea.

BROWNE, E. G., *A Year amongst the Persians.* 1893.

Price 21s. Black.

A singularly fascinating description of the country and people.

CURZON, LORD, *Persia and the Persian Question.* 1892. 2 vols.

Price 42s. Longmans.

A most comprehensive book, with full references to the literature of Persia; the standard work on the country.

SYKES, MAJOR P. M., *Recent Journeys in Persia.*

Geographical Journal, December, 1897, and February, 1902.

Major Sykes crossed Persia in every direction, and his accounts of the country are full and clear.

— *Ten Thousand Miles in Persia.* 1902.

Price 25s. net. Murray.

Contains some good geographical descriptions, a map, and specially interesting photographs.

WILLS, C. J., *In the Land of the Lion and the Sun.*

Price 2s. Ward, Lock, & Co.

The experiences of a physician resident in Persia for fifteen years, from 1866 to 1881.

11. Russia in Asia

ATKINSON, T. W., *Oriental and Western Siberia: A Narrative of Seven Years' Explorations and Adventures.* 1858.

Price 42s. Hurst & Blackett.

Contains many illustrations of scenery in Siberia, Mongolia, and Central Asia.

BEAZLEY, C. R., *The Siberian Railway.*

Scottish Geographical Magazine, November, 1900.

This paper contains a good generalised description of Siberian geography.

BOOKWALTER, J. W., *Siberia and Central Asia.* 1900.

Price 21s. net. Pearson.

Contains a very good account of the Trans-Caspian railway route.

BRYCE, J., *Transcaucasia and Ararat: Being Notes of a Vacation Tour in the Autumn of 1876, with an additional chapter on Armenia.* 1897.

Price 8s. 6d. Macmillan.

There is no more readable or trustworthy book on the region.

CURZON, G. N., *Russia in Central Asia in 1889, and the Anglo-Russian Question.* 1889.

Price 21s. Longmans.

Describes the route of the Trans-Caspian Railway, and gives an excellent idea of the advance of Russian conquest in Central Asia.

DE WINDT, H., *Siberia as it is.* 1892.

Price 18s. Chapman & Hall.

The author describes his journey from Perm to Tomsk in 1890, laying special stress on the social life of the Russians in Siberia, and the state of the prisons, of which he gives a favourable description.

FRASER, J. F., *The Real Siberia.* 1902. Price 3s. 6d. Cassell.

A popularly written book, but gives some vivid impressions of the country and its rapid and spasmodic development, and the anomalies of life there which it entails. Gives a very favourable view of the prison system.

FRESHFIELD, D. W., *The Exploration of the Caucasus.* With illustrations by Vittorio Sella. Cheap Edition, 1896. 2 vols.

Price 10s. 6d. Arnold.

This splendid work describes the scenery and people of the Central Caucasus in great detail, and the photographs are the finest ever produced in illustration of a geographical work.

HAWES, C. H., *In the Uttermost East.* 1903.

Price 16s. Harper.

An excellent book about Sakhalin, with notes on travel in Korea, Manchuria, and Siberia.

OFFICIAL GUIDE TO THE GREAT SIBERIAN RAILWAY.
1900. St. Petersburg: Ministry of Ways and Means.**RICKMERS, W. R., *Travels in Bokhara.***

Geographical Journal, December, 1899.

An interesting description of this semi-desert region.

— Bokhara.

Scottish Geographical Magazine, June, 1900.

Describes the same journey.

164 GUIDE TO GEOGRAPHICAL BOOKS

SIMPSON, J. Y., *Side-lights on Siberia*. 1898. Price 16s. Blackwood.

Gives a number of vivid descriptions of the great rivers and river life in Siberia.

STADLING, J., *Through Siberia*. 1901. Price 18s. Constable.

A clear account of a journey across Siberia by railway, then northwards to the Arctic ocean.

12. Turkey in Asia

(a) General

CUINET, VITAL, *La Turquie d'Asie*. 1890-5. 4 vols.

Price ca. 100s. Paris: Leroux.

The only authoritative geographical and statistical description of Asiatic Turkey.

HOGARTH, D. G., *The Nearer East*. (See p. 138.)

LEES, REV. G. R., *The Witness of the Wilderness: the Bedouin of the Desert*. 1909. Illustrations.

Price 3s. 6d. net. Longmans.

MAUNSELL, MAJOR F. R., *Central Kurdistan*.

Geographical Journal, August, 1901.

A graphic account of the nomadic Kurds and their country.

PERCY, EARL, *The Highlands of Asiatic Turkey*. 1901.

Price 15s. Arnold.

(b) Asia Minor

BARKLEY, H. C., *A Ride through Asia-Minor and Armenia*. 1891.

Price 10s. 6d. Murray.

The account of a visit in 1878-9.

RAMSAY, PROF. W. M., *Historical Geography of Asia Minor*.

Price 18s. Murray.

— *Impressions of Turkey*. Price 6s. Hodder & Stoughton.

Very graphically described impressions that bring the geographical character of the country clearly before the reader.

TOZER, H. F., *Turkish Armenia and Eastern Asia-Minor*. 1881.

Longmans.

Account of a journey in 1879, full of admirable descriptions.

(c) Arabia and Mesopotamia

BURTON, SIR R. F., *Personal Narrative of a Pilgrimage to El-Medina and Meccah*. New Edition. 2 vols. 1906.

Price 12s. The York Library.

Describes a journey undertaken in disguise with reckless courage to the holy cities of Arabia.

HOGARTH, D. G., *The Penetration of Arabia*. "Story of Exploration" Series. 1904. Price 7s. 6d. Lawrence & Bullen.

Rather a detailed account, but the chapters on the general geography of the country are good and very useful. See also Hogarth's *Nearer East* (p. 138).

LAYARD, SIR A. H., *Nineveh and its Remains*. New Edition. Price 7s. 6d. Murray.

— *Discoveries in the Ruins of Nineveh and Babylon*. New Edition. Price 7s. 6d. Murray.

These books are interesting as records of travel about 1850 over a large part of Asiatic Turkey, and still more as describing the discovery of the ancient memorials from which the histories of Nineveh and Babylon have been recovered.

PALGRAVE, W. G., *Narrative of a Year's Journey through Central and Eastern Arabia in 1862-63*. New Edition.

Price 6s. Macmillan.

A standard work of descriptive geography relating to a region which Europeans rarely visit.

(d) *Syria and Palestine*

BELL, G. L., *The Desert and the Sown*. Map and Illustrations. Price 16s. net. Heinemann.

CONDER, C. R., *Palestine*. 1893. Price 4s. 6d. Philip.

A concise account of the country and of the work of the Palestine Exploration Fund.

IRBY and MANGLES, *Travels in the Holy Land*.

Price 2s. Murray.

These travels took place before 1820.

LIBBEY, W., and HOSKIN, F. E., *The Jordan Valley and Petra*. 2 vols. 1905. Price 25s. Putnam.

Excellent illustration.

MACGREGOR, J., *The "Rob Roy" on the Jordan*.

Price 7s. 6d. and 2s. 6d. Murray.

Racy description of a canoe voyage down the Jordan to the Dead Sea in 1868-9.

MILLER, W., *The Least of all Lands*. 1888.

Price 4s. 6d. Blackie.

Applies the principles of geography to selected points of Scripture history in a masterly manner.

SMITH, G. A., *The Historical Geography of the Holy Land*. Thirteenth Edition. 1907. Price 15s. Hodder & Stoughton.

The most complete geographical and historical treatment of Palestine, illustrated by an exceptionally fine set of maps. A model geographical treatise, with which there are few relating to any part of the world that can be compared.

— *Jerusalem: The Topography, Economics, and History, from the Earliest Times to A.D. 70*. 1907. 2 vols.

Price 24s. net. Hodder & Stoughton.

CHAPTER XIV

THE GEOGRAPHY OF AFRICA

DURING the last thirty years Africa has had a very large share of geographical literature devoted to it. So many explorations of the first order have been made and recorded, that it is only possible to include a few representative works. These cannot be easily classified, for they belong to a period of rapid development of the political geography of the continent, when dividing lines were vague, and being frequently shifted. After a time there is no doubt that the records of work will refer to the divisions of the continent, which are now generally recognised. The tendency for books to refer to accepted political divisions is illustrated in the case of Europe by the fact that, out of 5,000 titles of modern geographical works taken at random, only 250, or 5 per cent., could not be classified under the names of the present European countries. This stage is, however, not yet reached in Africa, and the divisions which are adopted in subdividing that continent are in consequence not very precise.

It is essential in studying the geography of Africa to use maps of the most recent date. Not the political boundaries only, but the positions of lakes, mountains, and villages, and the directions of rivers have been often changed in consequence of the completion of new and more accurate surveys. The map on the scale of 1:1,000,000 being issued by the Topographical Section of the General Staff of the Army is the most reliable.

The keen interest taken in the political and commercial development of Africa in several European countries has led to the preparation of numerous general works describing that continent in English, French, and German. Some of these are popular compilations of no serious value; but several, the names of which are given in the following lists, are model geographical treatises. The school *Geography of Africa* by Mr. Heawood is perhaps the best of these, considering its size.

In reading most books on Africa, it is important to ascertain, and bear in mind, the views of the writer on controversial questions so as not to be seriously misled. In this respect Dr. Scott Keltie's *Partition of Africa* may be safely taken as a standard of comparison, as the sections relating to the history of the part played by each European nation in the political occupation of its territory have been revised by expert geographers of the nationalities in question. Journals representing African interests in European countries are very apt to give one-sided accounts of the territory each is interested in, and "other-sided" accounts of the neighbouring territories. In all cases readers should be careful to discriminate between facts and opinions.

BOOKS ON AFRICA

1. Africa in General

BROWN, R., The Story of Africa and its Explorers. 1893. 4 vols.
Price 30s. Cassell.

Many of the historical sections are extremely graphic, and the 800 illustrations are instructive.

DOWD, J., The Negro Races. A Sociological Study. 1907.
Price 10s. 6d. net. New York: Macmillan Co.

A useful discussion on the relation between geographical and social conditions.

***HEAWOOD, E., Elementary Geography of Africa.** Second Edition, 1903. Price 2s. 6d. Macmillan.

A piece of careful work, trustworthy in every statement; and, although brief, containing all essential facts in due proportion.

***HERBERTSON, A. J. and F. D., Africa: Descriptive Geography.**

JOHNSTON, SIR HARRY, The Colonisation of Africa by Alien Races. 1899. Price 6s. Cambridge University Press.

A clear and interesting history, with valuable maps. Has a short account of the indigenous peoples.

JUNKER, DR. W., Travels in Africa during the Years 1882-1886. 1892. 2 vols. Price 21s. Chapman & Hall.

KEANE, A. H., Africa. 2 vols. Vol. I., 1907; Vol. II., 1904.
Price 30s. Stanford.

Part of Stanford's *Compendium*, carefully rewritten.

KELTIE, J. SCOTT, Partition of Africa. 1895.
Price 16s. Stanford.

Gives a full account of the development of the political geography of Africa, with valuable historical maps. A standard work.

PREVILLE, A. DE, Les Sociétés Africaines: leur origine, leur évolution, leur avenir. 1894.

Price 4 fr. Paris: Librairie de Firmin-Didot.

This book draws out in the most interesting manner the relationship between the physical character of the country and the occupations of its inhabitants.

***REYNOLDS, J. B., Africa and Australasia.**

See in "General" Section.

SIEVERS, W., Afrika. Second Edition, 1901.

Price 15s. Leipzig: Bibliographisches Institut.

A well-illustrated volume.

***WEBB, E. J., Africa as seen by its Explorers. 1899.**

Price 2s. Arnold.

A short account of the exploration told by extracts from the writings of the explorers of all ages.

WHITE, A. SILVA, Development of Africa. Second Edition, 1893.

Price 7s. Philip.

Summarises the physical conditions of the continent and its economic value. There are useful physical maps.

2. Abyssinia**BAKER, SIR S., Nile Tributaries of Abyssinia.**

Price 6s. Macmillan.

Narrative of a journey in 1861 preliminary to his expedition to the Nile sources.

BLUNDELL, H. W., A Journey through Abyssinia to the Nile. Geographical Journal, February, 1900.

A description of the country, combined with a good deal of interesting history.

BRUCE, J., Travels through Part of Africa into Abyssinia to Discover the Source of the Nile. Price 2s. Chambers.

This describes the first modern travels in Africa, dating from 1768 to 1773.

LOBO, Voyage to Abyssinia.

Price 6d. Cassell.

A journey undertaken in 1624 : of historical interest.

PARKYNS, M., Abyssinia.

Price 7s. 6d. Murray.

Originally published in 1853.

STANLEY, H. M., The Campaign of Magdala, 1866-67.

Price 5s. 6d. Sampson Low.

Narrative of the British expedition to Abyssinia.

WYLDE, A. B., Modern Abyssinia. 1901. Price 15s. Methuen.

Parts of this book will be found useful by the teacher, especially the following chapters : Geographical Notes, Buildings and their Inhabitants, Agriculture and Domestic Animals.

3. Egypt**CROMER, EARL OF, Modern Egypt. 1908. 2 vols.**

Price 24s. net. Macmillan.

An account of recent Egyptian history by its Chief Controller.

170 GUIDE TO GEOGRAPHICAL BOOKS

HERODOTUS, Egypt and Scythia (Translation).

Price 6d. Cassell.

The first account of Egypt.

HOGARTH, D. G., The Nearer East (parts). (See p. 138.)

JOHNSTON, SIR H., The Nile Quest. 1903. "Story of Exploration" Series. Price 7s. 6d. Lawrence & Bullen.

A fascinating account of Nile exploration from prehistoric times to the latest geographical surveys, concluding with a geography of the whole Nile Basin. It has very good maps and photographs.

LANE, E. W., Manners and Customs of Modern Egyptians.

Price 2s. Ward, Lock & Co.

Mr. Lane speaks of the Egypt of seventy years ago.

LYONS, CAPT. H., Physiography of the Nile Basin. 1906 (?)

Cairo.

The best scientific account of the Nile Basin and of the Nile flood.

***MARDON, H. W., Geography of Egypt and the Sudan.** 1902.

Price 2s. Blackie.

A good book, designed for school purposes; written simply, but in a scientific manner. Applied geography receives a good deal of attention.

OHRWALDER, J., Ten Years' Captivity in the Mahdi's Camp.

Price 2s. 6d. Sampson Low.

A stirring story of adventure, including the escape of Father Ohrwalder from the Mahdi's camp in 1892.

POOLE, S. LANE, Egypt.

Price 3s. 6d. Sampson Low.

One of the descriptive handbooks.

ST. JOHN, BAYLE, The Libyan Desert.

Price 2s. Murray.

Originally published in 1846, but little more is known of the desert now than then.

SLATIN, SIR R., Fire and Sword in the Sudan. 1896.

Price 21s. Arnold.

Describes the escape of Slatin Pasha in 1895, and gives a vivid account of the Upper Nile Provinces under the rule of the Khalifa.

4. Algeria and Tunis and Sahara

FOUREAU, M. F., From Algeria to the French Congo.

Geographical Journal, February, 1901.

From this valuable paper a knowledge of the real nature of the Central Sahara may be gained, and of the whole Chad Basin.

GAUTIER, E. J., and CHUDEAU, R., Le Sahara. Vol. I. Algérie, Vol. II. Soudanais. 1908. Paris: Librairie Armand Colin.

- Very finely illustrated.

LALLEMAND, C., *La Tunisie*. 1892. Price ca. 30s. Paris: Quintin.

Remarkable for its fine coloured illustrations.

LEROY-BEAULIEU, P., *Le Sahara, le Soudan, et les Chemins de fers Transsahariens*. 1904. Price 8 fr. Paris: Guillaumi et Cie.

PETIT, M., *Les Colonies Françaises*. 1901. Vol. I. Paris: Librairie Larousse.

SCHIRMER, H., *Le Sahara*. 1893. 2 vols. Paris: Hachette.

TRISTRAM, H. B., *The Great Sahara: Wanderings South of the Atlas Mountains*. 1860. Price 15s. Chapman & Hall.
Describes the far south of Algeria.

VISCHER, H., *Across the Sahara from Tripoli to Bornu*. 1909. Price 12s. 6d. net. Arnold.

WAHL, M., *L'Algérie*. 1889. Price ca. 5s. Paris: Alcan.
A geographical and historical account of Algeria.

WORKMAN, F. B. and W. H., *Algerian Memories: A Bicycle Tour over the Atlas to the Sahara*. 1896. Price ca. 3s. 6d. Fisher Unwin.

Slight sketches of the country and the people, but giving a definite impression of some aspects of the land and its life.

5. Morocco

HARRIS, W. B., *The Land of an African Sultan: Travels in Morocco, 1887-89*. Price 2s. 6d. Sampson Low.

— *Tafilet*. Price 12s. Blackwood.
Written by a resident in Morocco.

HAY, SIR J. D., *Morocco and the Moors*. Price 2s. Murray.
By a British Representative at the capital of Morocco before 1844.

HOOKE, SIR J. D., and BALL, J., *Tour in Morocco and the Great Atlas*. 1878. Price 21s. Macmillan.
The expedition was made with a botanical object; but the country visited is fully described.

MEAKIN, BUDGETT, *The Land of the Moors*. 1901. With 83 Illustrations and a Map. Price 15s. Swan Sonnenschein.
A clear and reliable description of Morocco as far as it was then known.

— *Life in Morocco*. 1905. With 24 Illustrations. Price 12s. 6d. Chatto & Windus.
Gives a vivid and most interesting picture of the land and the life of its people.

172 GUIDE TO GEOGRAPHICAL BOOKS

THOMSON, J., *Travels in the Atlas and Southern Morocco*. 1889. Price 9s. Philip.

Gives a good account of Morocco city and of the Atlas range.

6. *Guinea, Nigeria, and Sudan*

ALEXANDER, BOYD, *From the Niger to the Nile*. 1907. Price 36s. net. Arnold.
2 vols.

See also paper in *Geographical Journal*.

A full account of one of the last great journeys of exploration in Africa.

BARTH, H., *Travels in North and Central Africa*.

Price 2s. Ward, Lock & Co.

— *Timbuktu and the Niger*.

Price 2s. Ward, Lock & Co.

Although these travels took place more than fifty years ago, they remain unsurpassed in interest.

BINDLOSS, H., *In the Niger Country*. 1898.

Price *m.* 10s. 6d. Blackwood.

Describes graphically the country (chiefly about the delta) and the life of its people.

BURTON, SIR R. F., *Wanderings in West Africa*. 2 vols.

Price 12s. Tylston.

Full of interesting descriptions of West Africa in 1862.

DUBOIS, F., *Timbuctoo the Mysterious*. 1896.

Price 12s. 6d. Heinemann.

The first description of the city of Timbuktu since Barth visited it fifty years ago.

JOHNSTON, SIR HARRY, *Liberia: The Negro Republic in West Africa*. 1906. 2 vols. With Maps and Illustrations.

Price 42s. Hutchinson.

The standard work on this republic.

KINGSLEY, M. H., *West African Studies*. Price 21s. Macmillan.

— *Travels in West Africa*. Second Edition, 1897.

Price 7s. 6d. Macmillan.

Travels in Congo Français, Corisco, and Cameroons.

— *Travels on the Western Coast of Equatorial Africa*.

Scottish Geographical Magazine, March, 1896.

Miss Kingsley was one of the best observers and most fascinating writers who have visited West Africa.

LUGARD, LADY (FLORA A. SHAW), *A Tropical Dependency*. 1905. Price 18s. James Nisbet.

A fascinating history of North Africa from prehistoric times, with a distinctly geographical basis. The vicissitudes of Sudan history are given in greater detail, and the conditions of North Nigeria specially considered.

MOSELEY, L. H., *Regions of the Benue.*

Geographical Journal, December, 1899.

A short general description of this important part of Nigeria.

PARK, M., *Travels in the Interior of Africa.* Price 6d. Cassell.

These travels are fascinating and romantic; although a hundred years old, their interest remains fresh.

PETIT, M., *Les Colonies Françaises.* Vol. I. 1901.

Paris: Librairie Larousse.

For Senegal, French Guinea, Ivory Coast, and Dahomey.

ROBINSON, C. H., *Hausaland; or, 1500 Miles through the Central Sudan.* 1896. Price 14s. Sampson Low.

Remarkably interesting description of the manner of life of the Hausa people, and the character of their country, especially of the city of Kano.

SCHWEINFURTH, G., *The Heart of Africa.* Translated by E. E. Frewer. 1868-71. 2 vols. Price 7s. Sampson Low.

A typical scientific exploration in the Eastern and Central Sudan.

THOMSON J., *Mungo Park and the Niger.* 1890.

Price 4s. 6d. Philip.

This combines with the biography of the pioneer modern explorer in Africa the complete history of discovery in the region he opened up.

VANDELEUR, S., *Nupe and Ilorin.*

Geographical Journal, October, 1897.

Describes the highland of Southern Nigeria and the town of Bida, the interesting capital of the Nupe Province.

7. Congo State and Equatorial Africa

GLAVE, E. J., *Six Years of Adventure in Congo Land.* 1893.

Price 7s. 6d. Sampson Low.

Describes the life of a pioneer officer of the Congo Free State.

JOHNSTON, SIR H. H., *The Congo, from its Mouth to Bolobo.*

Price 2s. 6d. Sampson Low.

Valuable descriptions of the scenery, natural history, and people of the Western Congo, as observed on a journey in 1882-3.

— *George Grenfell and the Congo.* 1908. 2 vols.

Price 30s. net. Hutchinson.

The most important historical and geographical account of the Congo Basin and one of the most distinguished explorers.

POWELL-COTTON, MAJOR P. H. G., *A Journey through the Eastern Portion of the Congo State.*

Geographical Journal, October, 1907.

Gives a very good short account of conditions in the Congo for 1907.

STANLEY, H. M., *Through the Dark Continent.*

Price 12s. 6d.; abridged edition, price 3s. 6d. Sampson Low.

Perhaps the most stirring book of African travel ever written. It details the discovery and first navigation of the Congo River system in 1878.

— ***In Darkest Africa.* Cheap Editions.**

Price 10s. 6d. and 5s. Sampson Low.

The story of Stanley's last journey in Africa in 1889, through the Congo State of the Nile, and thence to the East Coast.

8. Somaliland

JAMES, F. L., *The Unknown Horn of Africa.* 1890.

Price 7s. 6d. Philip.

The narrative of a sporting tour in Somaliland.

KOETTLITZ, R., *A Journey through Somaliland and Southern Abyssinia to the Shangalla or Berta Country and the Blue Nile, and through the Sudan to Egypt.*

Scottish Geographical Magazine, August, 1900.

PARKINSON, F. B., and BRANDER-DUNBAR, LIEUT., *Two Journeys in Northern Somaliland.*

Geographical Journal, January, 1898.

These accounts give a very good general idea of the configuration and structure of Northern Somaliland.

SMITH, A. DONALDSON, *Through Unknown African Countries.* 1897.

Price 21s. Arnold.

This deals largely with Somaliland, though it includes a good deal besides.

9. Central and East Africa

ARNOT, F. S., *Garenganze.* 1889.

Price 2s. 6d. Hawkins.

— ***Bihé and Garenganze.* 1895.**

Price 2s. 6d. Hawkins.

Missionary journeys in South Central Africa well told.

BAKER, SIR S., *The Albert Nyanza, Great Basin of the Nile, and Exploration of the Nile Sources.* Price 6s. Macmillan.

Describes the discovery of the Albert Nyanza in 1864.

BURTON, SIR R. F., *The Lake Regions of Central Africa: A Picture of Exploration.* 1860. 2 vols. Price 31s. 6d. Longmans.

Includes the discovery of Lake Tanganyika.

DRUMMOND, H., *Tropical Africa.* 1888.

Price 3s. 6d. Hodder & Stoughton.

The descriptions of the Lake Nyasa region are picturesque and trustworthy.

ELLIOT, SIR CHARLES, *The East African Republic*. 1905.
Price 15s. net. Arnold.

FILLIPPI, F. DE, *Ruwenzori: An Account of the Expedition of H.R.H. Prince Luigi-Amadeo of Savoy, Duke of Abruzzi*. 1908.
Price 31s. 6d. net. Constable.

An excellent account of an important expedition, magnificently illustrated.

GREGORY, J. W., *The Great Rift Valley: A Journey to Baringo and Mount Kenia*. 1896. Price 21s. Murray.

See also *Geographical Journal*, Oct., Nov., and Dec., 1894.

A fine specimen of a modern scientific journey carried out against serious disadvantages with great success. The physical geography of East Africa is nowhere better treated.

— *The Foundation of British East Africa*. 1901.
Price ca. 5s. Marshall & Son.

A masterly short account of the physical features of East Africa, its races, exploration, and development.

HOBLEY, C. W., *Kavirondo*. *Geographical Journal*, October, 1898.

A short and very clear account of the Kavirondo Highlands and their climate and people.

JOHNSTON, SIR H. H., *British Central Africa*. 1898.
Price 12s. Methuen.

Gives a history of the opening up of Nyasaland, and a general account of the present condition and resources of the British Central Africa Protectorate.

— *The Uganda Protectorate*. Second Edition, 1905. 2 vols.
Price 24s. Hutchinson.

Vol. I. will be found the most useful to teachers. It includes the geography, geology, and meteorology of the region. Vol. II. contains a detailed account of the different races who inhabit it.

LIVINGSTONE, D., *First Expedition to Africa, 1840-56*.
Price 7s. 6d. Murray.

— *Second Expedition to Africa, 1858-64*.
Price 7s. 6d. Murray.

— *Last Journals in Central Africa*. 1874. 2 vols.
Price 28s. Murray.

Every word written by Livingstone, the unapproached master of African exploration, is deserving of being carefully read.

MOORE, J. E. S., *To the Mountains of the Moon*. 1901. With Illustrations and Maps. Hurst & Blackett.

A very vivid, popular account of Central Africa and its modern aspects.

— *The Physiographical Features of the Nyasa and Tanganyika Districts of Central Africa*.
Geographical Journal, September, 1897.

A very clear account of the character and structure of this most northerly portion of British Central Africa.

SCOTT-ELLIOT, G. F., **A Naturalist in Mid-Africa.** 1896.
Price 16s. Innes & Co.

SMITH, CAPT. G. E., **Roadmaking and Surveying in British East Africa.** Geographical Journal, September, 1899.
Describes the route now followed by the Uganda railway.

SPEKE, J. H., **Journal of the Discovery of the Source of the Nile.** 1863.
Price ca. 15s. Blackwood.
Cheap Edition. Everyman's Library. Price 1s. Dent.
A fine piece of pioneer exploration.

THOMSON, JOSEPH, **To the Central African Lakes and Back.** 1881.
Price 7s. 6d. Sampson Low.
The first journey of this successful traveller; well worth reading.

— **Through Masai Land.** Price 2s. 6d. Sampson Low.
The author's adventures amongst the Masai on his journey through East Equatorial Africa in 1883-4 were most exciting, and the story is well told.

WALLACE, L. A., **North-Eastern Rhodesia.**
Geographical Journal, April, 1907.
This deals with the configuration and resources of the country.

WELBY, CAPT. M. S., **King Menelek's Dominions and the Country between Lake Gallop (Rudolf) and the Nile Valley.**
Geographical Journal, September, 1900.
Gives a good general idea of the region.

10. Cape Colony and Natal

FEILDEN, MRS. J. L., **My African Home: Bush Life in Natal when a Young Colony.** Price 7s. 6d. Sampson Low.
Describes Natal in 1852-7.

MARTIN, A., **Home Life on an Ostrich Farm.** 1891.
Price 3s. 6d. Philip.
Gives a good idea of a farmer's life at the Cape by one who has a considerable knowledge of wild creatures and their ways.

NATAL: **Official Guide and Handbook of General Information.** 1903.
Payne Jennings.
Deals with all aspects of the colony, and has numerous illustrations.

RUSSELL, R., **Natal: The Land and its Story.** A Geography and History for the use of Schools. Fifth Edition, 1897.
Price ca. 5s. Simpkin, Marshall, & Hamilton.
A colonial school-book which should be found useful by teachers at home.

WALLACE, R., **Farming Industries of Cape Colony.** 1895.
Price 10s. 6d. King & Son.
Studies of the agricultural wealth of South Africa of the greatest importance in forming a judgment of the real nature of the colony.

11. South Africa in General

BENT, J. T., Ruined Cities of Mashonaland.

Price 3s. 6d. Longmans.

Description of the remarkable ruins of Zimbabwe.

BROWN, A. S. & G. G., The Guide to South Africa.

London: Sampson, Low & Co.

Cape Town: J. C. Juta & Co. Price 2s. 6d.

An excellent guide book of which a new edition is issued every year. The general chapters are worth consulting.

BRYCE, JAMES, Impressions of South Africa. 1897.

Price 6s. Macmillan.

This delightfully written book gives an excellent general view of the physical conditions of the country, and its economic resources, with an outline of its history, showing the direct effect of the geography on its development.

FERGUSON, F. W., Southern Rhodesia: An Account of its Past History, Present Development, Natural Riches, and Future Prospects. 1907. With numerous Illustrations.

Collingridge.

Gives the latest information about the country. The geography and geology are shortly dealt with, but the economic conditions are more fully given.

FULLER, R. H., South Africa at Home.

Newnes.

An account of the country and the life of its inhabitants.

GALTON, FRANCIS, Travels in South Africa.

Price 2s. Ward, Lock & Co.

Pioneer journeys forty years ago to the north of Cape Colony.

***GRESWELL, W. P., Geography of Africa South of Zambesi.**

1892.

Price 7s. 6d. Oxford: Clarendon Press.

Contains a good account of the physical features of the country.

HATCH, F. H., and CORSTORPHINE, G. S., The Geology of South Africa. 1905.

Price 21s. Macmillan.

PASSARGE, PROF. S., Südafrika: Eine Landes-, Volks- und Wirtschaftskunde. 1908.

Price 7 M. 20 pf. Leipzig.

A very comprehensive book; the maps are especially good.

RECLUS, E., L'Afrique Australe (Géographie Universelle). 1901.

Price 10 fr. Paris: Hachette.

Deals with Africa south of the Zambesi, the country, its people, and its administration.

SELOUS, F. C., Travel and Adventure in South-East Africa. 1893.

Price 25s. Rowland Ward.

One of the best records of South African experiences as sportsman, naturalist, pioneer, and road-maker.

TREVOR, T. G., *The Physical Features of the Transvaal*.
Geographical Journal, July, 1906.

An exceedingly useful account of the natural regions of the Transvaal.

*WARNER, G. T., *The Geography of British South Africa*. 1904.
Blackie.

Has clear and interesting descriptions of the country, but without much geographical explanation.

WORSFOLD, W. B., *The Story of South Africa*. 1898.
Price *ca.* 2s. Marshall & Son.

A useful summary of South African history, not altogether devoid of some suggestion of the geographical features which controlled it.

12. Madagascar and Neighbouring Islands

DAWSON, E. W., *Madagascar: Its Capabilities and Resources*.
1895. Price 2s. Philip.

GARDINER, J. S., *The Seychelles Archipelago*.
Geographical Journal, February, 1907.
A valuable account of the islands and their history.

KELLER, C., *Madagascar, Mauritius, and other East African Islands*. 1901. Price 7s. 6d. Swan Sonnenschein.

A most complete account in a compact form of the islands, their geology, geography, flora, fauna, and peoples.

KNIGHT, E. F., *Madagascar in War Time*. 1896.
Price 12s. 6d. Longmans.

An excellent account of Madagascar as seen by a war correspondent.

PETIT, M., *Les Colonies Françaises*. Vol. II. 1902.
Paris: Librairie Larousse.

SIBREE, J., *Madagascar and its People*. 1870.
Price *ca.* 5s. Religious Tract Society.

— *The Great African Island*. 1880. Price 12s. Trübner.

— *Madagascar before the Conquest*. 1896.
Price 16s. Fisher Unwin.

Mr. Sibree, having resided in Madagascar as a missionary since 1866, has made himself thoroughly familiar with the land and people he describes, and his descriptions are fully to be trusted.

CHAPTER XV

THE GEOGRAPHY OF NORTH AMERICA

THE three main divisions of North America are large and distinct, and there are plenty of books about each of them, those relating to the southern division being, however, mainly in Spanish and French. The long range of the Rocky Mountains, the high plateaus to the west, and the great plains and prairies to the east run unbroken through Canada and the United States, but the description of these uniform features must be sought in two sets of books. The official Geological Surveys of Canada and of the United States are full of valuable descriptions of exploration ; and the Census reports of the United States, published every ten years, are equipped with an unequalled series of statistical maps. The journals of the New York, the Washington, and the Philadelphian Geographical Societies abound with original papers on all parts of America, and the increasing attention paid to geography in the Universities has led to the production of many excellent memoirs on separate regions.

With regard to maps, there is not such a range of choice for North America as for Europe, the topographical surveys of the various Governments being still very imperfect. The detailed Topographical Survey of Canada has recently been begun. The United States is best represented, but the work is divided between the Coast and Geodetic Survey, the United States Geological Survey, and the independent surveys carried on by separate States. For physical

geography in the department of meteorology, the United States weather-maps are particularly useful, and attention may be called to the admirable monthly journal of the Weather Bureau.

Of course, in teaching the geography of the vast countries of North America in the schools of Britain, attention must be given mainly to the larger features, without entering into the detail required in the schools of the countries themselves. The relative sizes of the Provinces or States, and their distinction from, and relation to, the Federal Government should be very carefully insisted on. The small scale of the maps of Canada and the United States usually seen makes it too easy to fall into the childish error that American States correspond to English counties, rather than to the countries composing the United Kingdom, to which they may be more naturally compared.

BOOKS ON NORTH AMERICA

1. General

DECKERT, E., Nord Amerika. Sievers's Länderkunde. 1904.
Price 15s. Leipzig: Bibliographisches Institut.
Well illustrated.

FISKE, J., Discovery of America: With some Account of Ancient America and the Spanish Conquest. 1892. 2 vols.
Price \$ 4. Boston and New York: Houghton, Mifflin & Co.
A fascinating account of the period of the great discoveries.

***HERBERTSON, A. J. and F. D., North America:** Descriptive Geography. (See p. 82.)

PARKMAN'S Works. 12 vols. Each vol. 7s. 6d. Macmillan.
These form a series of historical treatises descriptive of the discovery and opening up of North America, dealing mainly with Canada. It is being published in Everyman's Library (Dent: price 1s. each vol.). Four volumes have already appeared.

PAYNE, E. J., History of the New World called America. Vol. I. 1892. Price 18s. Oxford: Clarendon Press.

A scholarly account of the discovery of America, and of the condition of North and South America when first visited by Europeans. The book is written with strict regard to geographical principles.

REYNOLDS, J. B., Regional Geography: The Americas. Price 2s. Black.

Contains sufficient detail for the Matriculation examination.

RUSSELL, T. C., North America. 1904. "Regions of the World." Series. Price 7s. 6d. Frowde.

Deals almost entirely with the physical conditions of the country, and not, as the other volumes of this series, with their influence upon human life.

SHALER, W. S., The Story of our Continent: The Physical Geography and Geology of North America, for Beginners. Price 3s. 6d. London, Boston, and New York: Ginn.

WINSOR, J., Cartier to Frontenac. 1894. Price 16s. Boston and New York: Houghton, Mifflin & Co.

182 GUIDE TO GEOGRAPHICAL BOOKS

WINSOR, J., The Mississippi Basin: The Struggle in America between England and France, 1697-1763. 1895.

Price 16s. Boston and New York: Houghton, Mifflin & Co.

These two volumes give a vivid account of the progress of discovery in the Continent of North America.

2. Canada and Newfoundland

ABBOTT, J., Missionary Life in Canada. Price 2s. Murray.

Contains a good account of the Canadian Indians as they were fifty years ago.

BRADLEY, A. G., Canada in the Twentieth Century. 1905.

Price 16s. Constable.

One of the best books on modern Canada, intensely interesting throughout.

BRYCE, G., Manitoba: Its Infancy, Growth, and Present Conditions. Price 7s. 6d. Sampson Low.

Written in 1882; an account of the development of the great grain-growing district of Canada.

BURPEE, L. J., The Search for the Western Sea: The Story of the Exploration of North-Western America. 1908.

Price 16s. net. Alston Rivers.

BUTLER, SIR W. F., The Great Lone Land: A Record of Travel and Adventure in North and West America. Three Editions.

Price 7s. 6d., 3s. 6d., and 2s. 6d. Sampson Low.

— **The Wild North Land: Across Northern North America.** Two Editions. Price 7s. 6d. and 2s. 6d. Sampson Low.

The journeys described in these volumes took place between 1871 and 1874; the second was a winter journey with dog-sledges. The descriptions of Northern Canada remain authoritative.

DAWSON, S. E., Canada and Newfoundland. Stanford's Compendium, North America, Vol. I., 1897. Price 15s.

With good descriptions and considerable historical information. Weak in scientific portions.

— **The Saint Lawrence Basin.** 1905.

Price 7s. 6d. Lawrence & Bullen.

A rather detailed account of the gradual unfolding of the geography of the country.

FRASER, J. F., Canada as it is. 1905. Price 6s. Cassell.

Deals chiefly with economic and political matters, but gives some vivid pictures of the country itself, especially the Far West.

GROHMANN, W. A. B., Camps in the Rockies. 1882.

Price 12s. 6d. Sampson Low.

A hunter's wanderings, giving a vivid picture of the country.

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HARVEY, M., Newfoundland in 1897. 1897. Price 5s. Sampson Low.

This, although intended mainly as a tourists' guide-book, gives an excellent idea of the colony.

MILTON, VISCOUNT, and CHEADLE, W. B., The North-West Passage by Land: Narrative of an Expedition from the Atlantic to the Pacific. New Edition. 1901. Price 2s. Cassell.

MORGAN, H. T., and BURPEE, L. J., Canadian Life in Town and Country. 1905. Price 3s. 6d. Newnes.

An excellent little book, much to be recommended from the geographical point of view.

PARKIN, G. R., The Great Dominion: Studies of Canada. 1895. Price 6s. Macmillan.

A striking picture of Canada, particularly the Western Provinces, twelve years ago.

PIKE, W., The Barren Grounds of Northern Canada. 1892. Price 6s. Macmillan.

— **Through the Sub-Arctic Forest: A Record of a Canoe Journey from Fort Wrangel to the Pelly Lakes and down the Yukon River.** 1896. Price 16s. Arnold.

Very graphic descriptions of recent travel in the far north of Canada and in Alaska, by a sportsman with a keen eye for Nature.

3. United States

BRIGHAM, A. P., Geographical Influences in American History. 1903. Price 6s. Boston and London: Ginn.

An exceedingly valuable book, showing clearly, yet within a small compass, the great part played by geography in the development of the United States. It should make the teaching of the geography of North America on broad lines easy.

— **From Trail to Railway Across the Appalachians.** 1907. Price 2s. 6d. Boston and London: Ginn.

A fascinating book, designed for American schools. It gives an account, in narrative form, of the geography and history of the United States, in which roads and the western movement are the main theme.

BRYANT, W. C., Picturesque America. 4 vols. Price 16s. Cassell.

This beautiful but costly work is devoted almost exclusively to the delineation of the principal natural and architectural features of the United States.

BRYCE, J., The American Commonwealth. Third Edition, 1893-5. 2 vols. Price 25s. Macmillan.

The standard work on the political and social organisation of the United States.

*DAVIS, W. M., *The State Map of Connecticut as an Aid to the Study of Geography in Grammar and High Schools*: Connecticut School Document. 1896. No. 6.

— *The State Map of Rhode Island as an Aid to the Study of Geography in Grammar and High Schools*. 1896.

These little pamphlets, published by the State school authorities of Connecticut and Rhode Island respectively, are valuable as specimens of how the large-scale (Ordnance) maps of any district may be utilised for school purposes.

GANNETT, H., *The United States*, Stanford's Compendium, North America, Vol. II. Price 15s.

A rather unequal volume, with much information.

KING, C., *Mountaineering in the Sierra Nevada*. New Edition. 1903. Price 6s. Unwin.

KING, M., and SWEETSER, M. F., *Handbook of the United States*. 1891. Price 10s. Osgood, M'Ilvaine & Co.

A compact account of each State, with statistics, illustrations, and maps. Valuable for reference.

PORTER, T. C., *Impressions of America*. 1899. Price *ca.* 16s. Pearson.

A most instructive account of a trip across America by a keen scientific observer. It is illustrated with stereoscopic views.

POWELL, J. W., *Canyons of the Colorado*. 1895. Price *ca.* 20s. Meadville, Pa.: Flood & Vincent.

A popular account of a magnificent exploring expedition amidst the grandest scenery of the Far West between 1869 and 1872.

SEMPLE, E. C., *American History and its Geographical Conditions*. 1903.

Price 13s. Boston and New York: Houghton, Mifflin & Co.

An exceedingly interesting and enlightening book, which should be used to supplement Professor Brigham's book.

SHALER, N. S., *The United States of America*. 1894. 2 vols. Price 36s. Sampson Low.

A series of essays by more than twenty specialists, edited by Prof. Shaler, who has himself contributed the more strictly geographical part of the work. It discusses all aspects of the United States.

SYNGE, G. M., *A Ride through Wonderland*. Price 12s. 6d. Sampson Low.

A fresh and lively account by a lady of a visit to the Yellowstone National Park in the Rocky Mountains.

4. Mexico

CARSON, W. E., *Mexico: the Wonderland of the South*. 1909. Price 10s. net. New York: Macmillan.

One of the better type of popular books.

THE GEOGRAPHY OF NORTH AMERICA 185

ENOCK, R. R., Mexico.

A clear account of modern Mexico.

GADOW, H., Through Southern Mexico. 1908.

Price 18s. net. Witherby.

An excellent account of modern conditions in South Mexico.

GOOCH, F. C., Face to Face with the Mexicans. 1890.

Price 16s. Sampson Low.

Well-illustrated description of Mexico and the Mexicans by an American lady who had resided seven years in the country.

HOWARTH, O. H., The Cordillera of Mexico and its Inhabitants.
Scottish Geographical Magazine, June, 1900.

Gives a short general account of Mexican configuration as an introduction.

LUMHOLTZ, CARL, Unknown Mexico. 1903. 2 vols.

Price 50s. net. Macmillan.

An admirable account of the little-known parts of Western Mexico, and its inhabitants.

MARTIN, P. F., Mexico of the Twentieth Century. 1907. 2 vols.

Price 36s. net. Arnold.

A work dealing with modern Mexican conditions. The second volume is the most useful for the geographer, dealing with the nature of the country and its industries.

PRESCOTT, W. H., History of the Conquest of Mexico: With a Preliminary View of the ancient Mexican Civilisation.

Price 7s. 6d. Swan Sonnenschein.

Another edition. 2s. Routledge.

This important work, written in 1843, takes full cognisance of the geographical basis of history.

ROMERO, M., Geographical and Statistical Notes on Mexico. 1898.

Price ca. 36s. Putnam & Sons.

CHAPTER XVI

THE GEOGRAPHY OF THE WEST INDIES AND CENTRAL AND SOUTH AMERICA

A COMPACT series of handbooks of the various Central and South American republics has been published by the Bureau of American Republics in Washington, but that body declines to make itself responsible for the statistics given in any case. Hence, while the general account of the country given in these books is usually very clear and of real educational value, the figures quoted should be taken with some reserve. Most of the standard works on South American countries are written by foreigners, frequently Germans, in the employment of the respective Governments, or by scientific travellers. It should be noted that the boundaries in South America are only slowly being fixed, so that maps of the continent published in different countries, or at different times, often differ greatly.

There are geographical societies which publish voluminous bulletins in Lima (written in Spanish), Rio de Janeiro and Bahia (in Portuguese), and many valuable papers on physical geography appear in the publications of the La Plata Museum (in Spanish).

It is convenient to class Central America and the West Indies along with South America, and for many purposes Mexico may also be included, the whole series of Spanish or Portuguese-speaking republics being sometimes known as "Latin America," in distinction to the English-speaking communities of North America.

THE GEOGRAPHY OF THE WEST INDIES 187

The geography and history of Latin America are very closely linked together; the great range of the Andes with its lofty plateaus on the west, and the vast plains of the east with their huge rivers, have exercised in all time an easily detected influence on the movement of peoples, and the boundaries of their countries. The treatment in Reclus's *Géographie Universelle*, being the last part of that great work to be written, reflects the sum of the author's experience in geographical study and literary art.

BOOKS ON THE WEST INDIES AND CENTRAL AND SOUTH AMERICA

1. General

BALL, J., Notes of a Naturalist in South America. 1887.
Price 8s. 6d. Kegan Paul.

Description of a trip round South America in 1882, made with a scientific object, but here described in the most simple and popular way. Well adapted for reading in schools.

CHURCH, COL. G. E., South America.
Geographical Journal, April, 1901.

A short systematic account of the geography of the different regions of South America.

***HERBERTSON, A. J. and F. D., Central and South America:**
Descriptive Geography. (See p. 82.)

**HUMBOLDT, A. VON, Travels to the Equinoctial Regions of
the New Continent, from 1799 to 1804.** 3 vols.
Price 10s. 6d. Bohn.

One of the first journeys of scientific exploration. A work of much interest historically.

**KEANE, A. H., Central America and West Indies. Vol. II.
South America, Stanford's Compendium.** 1901. Price 15s.

**MARKHAM, SIR C. R., and KEANE, A. H., South America,
Vol. I. Stanford's Compendium.** New Edition, 1909. Price 15s.

These two volumes are the latest and most useful summary in English of the geography of South and Central America.

MARTIN, P. F., Through Five Republics of South America.
1905. Price 21s. Heinemann.

A formalistic description of Argentina, Brazil, Chile, Uruguay, and Venezuela, with maps and illustrations, chiefly concerned with the economic development.

PEPPER, C. M., From Panama to Patagonia. 1906.
Price \$2.50. Hodder & Stoughton.

Chiefly economic. Discusses the effect that the Panama Canal will have on the development of America.

THE GEOGRAPHY OF THE WEST INDIES 189

SIEVERS, W., *Süd- und Mittelamerika*. Second Edition, 1903.
Price 15s. Leipzig: Bibliographisches Institut.

The best German account of this part of the world. With good maps and well illustrated.

SPRUNE, R., and WALLACE, A. R., *Notes of a Botanist on the Amazon and Andes*. 2 vols. 1908.
Price 21s. net. Macmillan.

Deals with parts of Peru, Ecuador, Colombia, Venezuela, and Brazil.

VINCENT, F., *Around and about South America*. 1890.
Price 21s. Kegan Paul.

Observations made during a tour of twenty months by a widely travelled American.

WATERTON, C., *Wanderings in South America, the North-West of the United States, and the Antilles, in 1812-16-20, and 1824*.

Price 6s., or Popular Edition, 6d. Macmillan.
Price 4s. Nelson. Also other editions.

A naturalist's travels which have achieved deserved popularity.

2. West Indies

AGASSIZ, A., *Three Cruises of the "Blake"*. 2 vols. 1901.
Price \$8. Boston and New York: Houghton, Mifflin & Co.
A valuable account of oceanic research.

DODSWORTH, F., *The Book of the West Indies*. 1904.
Routledge.

Designed for a tourists' handbook, but contains a good deal of useful information, shortly put, about all the islands, which is not easily obtainable.

FROUDE, J. A., *The English in the West Indies*.
Price 2s. 6d. Longmans.

Picturesque descriptions. The opinions expressed are not universally held by authorities on the subject.

HILL, R. T., *Cuba and Porto Rico; with the other Islands of the West Indies*. 1898.
Price ca. 12s. 6d. Fisher Unwin.

An excellent account of the topography, climate, flora, products, industries, people, and political condition of the islands.

KINGSLEY, C., *At Last: A Christmas in the West Indies*.
Price 3s. 6d. Macmillan.

Enthusiastic appreciation of the beauty of West Indian scenery. No finer descriptions of tropical countries are to be found.

LEWIS, M. G., *Journal of a Residence among the Negroes in the West Indies*.
Price 2s. Murray.

Refers to a date before 1845.

190 GUIDE TO GEOGRAPHICAL BOOKS

NASH, A. G., Jamaica ; with Remarks on some of the other West Indian Islands.

Scottish Geographical Magazine, December, 1899.

A short account of the history and geography of Jamaica. The paper is followed by one on the geology of the island, with a geological map by R. T. Hill.

PRICHARD, HESKETH, Through Haiti.

Geographical Journal, September, 1900.

Gives a good idea of the condition of the island.

RODWAY, J., The West Indies and the Spanish Main. 1896.

Price 5s. Fisher Unwin.

This history of the West Indies necessarily involves a good deal concerning the geography of the group.

3. Central America

BELT, T., The Naturalist in Nicaragua. 1874.

Price 12s. Murray.

One of the standard works on tropical nature, describing journeys in 1868-72.

CHURCH, COL. G. E., Costa Rica.

Geographical Journal, July, 1897.

A very valuable and comprehensive account of the republic and its people, with a good map.

COLQUHOUN, A. R., The Key of the Pacific: The Nicaragua Canal. 1896.

Price 21s. Constable.

A full discussion of the nature and commercial possibilities of the proposed canal through Lake Nicaragua, with maps.

GIBBS, J. R., British Honduras: Historical and Descriptive. 1883.

Price 7s. 6d. Sampson Low.

SAPPER, KARL, Das Nördliche Mittelamerika. 1897.

Price 9 M. Brunswick : Vieweg.

4. Colombia and Ecuador, etc.

SCRUGGS, W. L., The Colombian and Venezuelan Republics.

With Maps and Illustrations. Second Edition, 1905.

Price ca. 5s. Sampson Low.

Though part of the book is purely political, it contains pleasantly written accounts of the country, climate, and positions of towns.

STON, A., Travels in the Wilds of Ecuador. 1887.

Price 8s. 6d. Sampson Low.

WIMPER, E., Travels amongst the Great Andes of the Ecuador. 1892.

Price 21s. net. Murray.

Mainly treats of mountaineering in 1882 ; the book is magnificently illustrated.

5. Peru and Chile

ENOCK, R. R., *The Andes and the Amazon: Life and Travel in Peru*. Second Edition, 1908. Price 21s. Fisher Unwin.

Mainly accounts of travels in Peru. Well illustrated.

— *Peru*. 1908. Price 10s. 6d. Fisher Unwin.

The best account of the country in English.

See also Mr. Enock's paper on Southern Peru in the *Geographical Journal*, September, 1906.

MARKHAM, SIR C. R., *Peru*. 1880. Price 3s. 6d. Sampson Low.

One of the descriptive handbooks.

— *Travels in Peru and India*. 1862. Price 16s. Murray.

Describes the chinchona forests of Peru, and the introduction of the chinchona tree into India.

PRESCOTT, W. H., *History of the Conquest of Peru*.

Price 7s. 6d. Swan Sonnenschein.

Another edition. Price 2s. Routledge.

This important work was written in 1847, and is well worth reading on account of its geography as well as its history.

SCOTT ELLIOT, G. F., *Chile*. 1907.

Price 10s. 6d. Fisher Unwin.

A short *résumé* of the geography, and a longer account of the history of Chile.

SQUIER, E. G., *Peru: Incidents of Travel and Exploration in the Land of the Incas*. 1877. Price 21s. Macmillan.

TSCHUDI, J. J., *Travels in Peru in 1838-42*. 1847. Bogue.

These travels still retain great interest and value.

6. River Plate Countries

BARCLAY, W. S., *The River Paraná: An Economic Survey*.

Geographical Journal, Jan. 1909.

BOURGADE LA DARDY, E. DE, *Paraguay: The Land and the People*. Edited by E. G. Ravenstein. 1892.

Price 7s. 6d. Philip.

A systematic description of this little-studied country.

GRUBB, W. B., *The Chaco Boreal: The Land and its People*. *Scottish Geographical Magazine*, July, 1900.

HEAD, F. B., *Pampas Journeys*. Price 2s. Murray.

Captain Head travelled across the Pampas and along the Andes in 1828. He describes these great stretches of country before they had been touched by man.

192 GUIDE TO GEOGRAPHICAL BOOKS

HOLDICH, SIR T., The Country of the King's Award. 1904.
Price 16s. Hurst & Blackett.

Gives a short general view of South American geography, besides dealing in detail with the Andes of Argentina and Chile.

HUDSON, W. H., The Purple Land that England Lost: Banda Oriental. Price 6s. Sampson Low.

Describes travels and adventures in Uruguay in the year 1884.

— **The Naturalist in La Plata.** 1892.
Price 16s. Chapman & Hall.

— **Idle Days in Patagonia.** 1893.
Price 14s. Chapman & Hall.

Full of keen observations of plants and animals, and their ways in the Pampas of the Argentine. The relation between living creatures and their geographical surroundings is fully discussed.

KNIGHT, E. F., The Cruise of the "Falcon" across the Atlantic and up the Rivers Parana and Paraguay.

Price (different editions) 7s. 6d., 3s. 6d., and 2s. 6d. Sampson Low.

A fascinating account of an adventurous voyage in a small yacht in 1883.

MILL, H. R., New Lands: Their Resources and Prospective Advantages. 1900. Price 5s. Griffin & Co.

Contains a valuable chapter on Argentina.

MUSTERS, C. G., At Home with the Patagonians. 1871.
Price 7s. 6d. Murray.

Describes a year's wanderings from the Strait of Magellan to the Rio Negro.

PELLESCHI, G., Eight Months on the Gran Chaco. 1886.
Price 8s. 6d. Sampson Low.

PRITCHARD, H. H., Through the Heart of Patagonia. 1902.
Price 21s. net. Heinemann.

Account of an exploration across the Patagonian plain and up into the foothills of the Andes. Much space is devoted to the big game of the region, but there is a good short general description of the country, and occasional useful geographical observations on the route.

7. Brazil

AGASSIZ, L., and AGASSIZ, MRS., A Journey in Brazil. 1869.
Price 21s. Trübner.

A fascinating account of nature and man in South Brazil and on the Amazon in 1865 and 1866.

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BATES, H. W., *Naturalist on the River Amazons*. Abridged Edition. 1892. Price 7s. 6d. Murray.

A masterpiece of scientific travel. This edition contains a biography of the author.

BURTON, SIR R., *The Highlands of Brazil*. Price 3os. Tinsley.
Record of a visit in 1868.

EDWARDS, W. H., *The River Amazon*. Price 2s. Murray.
Refers to a date before 1847.

KOETTLITZ, *From Para to Manaos*.
Scottish Geographical Magazine, January, 1901.
Interesting account of the lower Amazon and the life on its banks.

WALLACE, A. R., *Travels on the Amazon and Rio Negro*.
Price 2s. Ward, Lock & Co.
Dr. Wallace, the companion of Mr. Bates on the Amazon, was led by his observations on this journey, and subsequently in the Malay Archipelago, to arrive independently at the theory of natural selection.

8. Guiana and Venezuela

ANDRÉ, E., *A Naturalist in the Guianas*. 1904.
Price 14s. net. Smith Elder & Co.

BROWN, C. B., *Canoe and Camp Life in British Guiana*. 1876.
Price 21s. Stanford.
The journeys were made in 1868-72.

CHALMERS, SIR DAVID P., *British Guiana*.
Scottish Geographical Magazine, March, 1896.
A sketch of the geography of the colony and the lines of its development.

IM THURN, E. F., *Among the Indians of Guiana*. 1883.
Price 18s. Kegan Paul.
Gives an excellent account, with some fine illustrations of the Guiana Indians and their mode of life.

PATERSON, S., *In the Wilds of Venezuela*.
Scottish Geographical Magazine, November, 1898.

— *In the Valley of the Orinoco*.
Geographical Journal, January, 1899.
An excellent account of the savanas and forests of the Orinoco, and of the climate of Venezuela.

RALEIGH, SIR W., *Discovery of Guiana*. Price 6d. Cassell.
A fine piece of historical adventure.

RODWAY, J., *In the Guiana Forest: Studies of Nature in Relation to the Struggle for Life.* 1895. Price 3s. 6d. Fisher Unwin.

A vivid description of tropical nature, with some remarkable geographical observations.

ROUTLEDGE, R. M., *The Falkland Islands.*

Scottish Geographical Magazine, May, 1896.

Describes the country and its administration and social order.

CHAPTER XVII

THE GEOGRAPHY OF AUSTRALASIA AND THE PACIFIC ISLANDS

THE literature of this region is entirely modern, dating mainly from Captain Cook's great voyages, and continued in the records of the numerous scientific cruises made by French, British, American, and other men-of-war and missionary vessels during the earlier half of the nineteenth century. The reader must be warned against trusting implicitly in the statements of irresponsible travellers. Several books have appeared on different parts of Australia and on the Pacific Islands which are almost worthy of being classed with the *Travels* of Sir John de Mandeville, if not with those of Baron Munchausen. All those mentioned in the following list may be trusted as giving a true description within their scope.

A great deal of useful information may be obtained from Gordon & Gotch's *Australian Handbook*, which is published annually, and contains, along with an immense amount of statistical information regarding the Australasian Colonies, a full gazetteer of all their towns and villages.

The Government of New South Wales is publishing a voluminous history of that colony, recording with the greatest minuteness, and with the reproduction of original documents, all the incidents of the growth of the settlement. This, while of the utmost value to students of colonisation, is on far too large a scale for general readers.

The islands of the Pacific are perhaps best described in

the Admiralty Sailing Directions and in Findlay's Directories of the Pacific Ocean, but of course the main bulk of these works is devoted to instructions for mariners. Those who are fortunate enough to have access to R. Louis Stevenson's *Letters from the Pacific* will probably be able to derive from them a better idea of the actual conditions of the Pacific Islands and their people than from any other book, and all the stories of that author, the scene of which is laid in the Pacific, will be found to be veritable geographical romances. Any intelligent reader can allow for the element of fiction, and may safely accept all descriptions of scenery and of character as truly characteristic of Polynesia to-day. In no part of the world are changes proceeding more rapidly than in the Pacific Islands. The plants, animals, and people of a century ago are rapidly disappearing or becoming so much mixed with imported varieties that their primitive character has almost been lost. Hence the earlier books of travel describing those islands have a quite special value.

BOOKS ON AUSTRALASIA AND THE PACIFIC ISLANDS

1. General

*HERBERTSON, A. J. and F. D., **Australasia: Descriptive Geography.** (See p. 82.)

LOW, C. R., **Captain Cook's Three Voyages Round the World.**
1897. Price 2s. Routledge.

Describes the discovery of innumerable Pacific islands, and the first surveys of the coasts of New Zealand and the east of Australia.

MORRIS, E. E. (Editor), **Picturesque Australasia.** 4 vols.
Price 3os. Cassell.

For the illustrations, which are numerous and good.

PINKERTON'S **Australian Voyages.** Price 6d. Cassell.
A collection of early voyages.

RANKIN, G., **The Federal Geography of British Australasia.**
1891. Price 6s. Sampson Low.

An excellent text-book, written by an Australian for Australian schools.

SIEVERS, W., **Australasien, Ozeanien und Polarländern.** 1902.
Price 15s. Leipzig: Bibliographisches Institut
Well illustrated.

STANFORD'S **Compendium of Geography and Travel: Australasia:**

Vol. I. **Australia and New Zealand.** 1907. Rewritten by
Prof. Gregory.

Vol. II. **Malaysia and Pacific Archipelagoes.** By F. H. H.
Guillemard. New Edition, 1908.

Price 15s. each vol. Stanford.

The best systematic treatise on the subject available.

WALLACE, R., **Agriculture and Rural Economy of Australia
and New Zealand.** Price 21s. net. Sampson Low

Account of a critical study of the Australasian Colonies in 1890.

(See also the works on the British Empire)

2. Australia

***BARTON, C. H., Outlines of Australian Physiography.** 1895.
Price *ca.* 2s. Maryborough, Queensland.

An excellent little text-book of the physical geography of Australia.

BULEY, E. C., Australian Life in Town and Country. 1905.
Price 3s. 6d. Newnes.

Gives an interesting picture of the natural conditions which govern life in Australia.

COGHLAN, T. A.,

The Climate of New South Wales.

The Fauna of New South Wales.

The Agriculture of New South Wales.

The Mining Industry of New South Wales.

1900. Sydney: Gullick.

Four useful little pamphlets.

GILES, E., Australia Twice Traversed in 1872-1876. 1889.
2 vols. Price 30s. Sampson Low.

With an introduction giving a summary of previous journeys in Australia.

GREGORY, J. W., The Economic Geography and Development of Australia.

Geographical Journal, August and September, 1906.

Gives an excellent general view of the continent.

— **The Climate of Australasia in Reference to its Control by the Southern Oceans.** 1904.

Price 1s. Melbourne and London: Whitcombe & Tombs.

Very valuable to the teacher.

— **The Dead Heart of Australia.** 1906.

Price 16s. net. Murray.

A very interesting book, especially on the question of the underground water-supply of Australia.

HAYGARTH, H. W., Bush Life in Australia. Price 2s. Murray.

This records experiences for eight years in the bush, before 1848.

HUTCHINSON, F. (Editor), New South Wales, the Mother Colony of the Australias. 1896.

Price *ca.* 5s. Sydney: Potter.

A collection of essays on all aspects of New South Wales—historical, geographical, economic, and social—by different authors. Published by the authority of the N.S.W. Government.

LUMHOLTZ, C., Among Cannibals: Four Years' Travels in Australia among Aborigines of Queensland. Price 24s. Murray.

A graphic account of the life of the "Black Fellows" in Queensland.

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TAYLOR, J. E., *Our Island Continent: A Naturalist's Holiday in Australia.* 1886. Price 2s. 6d. S.P.C.K.

A delightful little book.

THYNNE, R., *The Story of Australian Exploration.* 1894. Price 5s. Fisher Unwin.

Attractive reading for young people, telling the story of Australian inland exploration like a novel.

WARBURTON, R. E., *Across the Western Interior of Australia.* 1875. Price 16s. Sampson Low.

Narrative of an important overland expedition.

WOODS, J. D., *The Province of South Australia.* 1894. Price ca. 5s. Adelaide.

An official account of South Australia, with a description of the North Territory by H. D. Wilson.

3. New Zealand

GISBORNE, WM., *The Colony of New Zealand: Its History, Vicissitudes, and Progress.* 1888. Price 7s. 6d. Petherick & Co.

A good general account of the colony.

HARPER, A. P., *Pioneer Work in the Alps of New Zealand.* 1896. Price 21s. Fisher Unwin.

A narrative of the work of the New Zealand surveyors in exploring and mapping the Southern Alps.

HOCHSTETTER, F. VON, *New Zealand: Its Physical Geography, Geology, and Natural History.* Translated by E. Sauter. 1867. Price 21s. Williams & Norgate.

This is a standard work, although, on account of the explorations of the last thirty years, it requires to be supplemented by some more modern description.

MANNERING, G. E., *With Axe and Rope in the New Zealand Alps.* 1891. Price 12s. 6d. Longmans.

Gives an excellent idea of the mountains of the South Island of New Zealand.

MARSHALL, P., *The Geography of New Zealand: Historical, Physical, Political, and Commercial.* 1904 (?) Price 4s. 6d. net.

Very good and clear account of physiographical principles, with New Zealand illustrations. Numerous maps, diagrams, and illustrations.

REEVES, W. P., *The Long White Cloud.* 1898.

Price 6s. net. Marshall & Son.

A well-written and clear description of the character and scenery of New Zealand, with its resources and history.

4. New Guinea and Neighbouring Islands

BEVAN, T. F., *Toil, Travel, and Discovery in British New Guinea.* 1890. Price 7s. 6d. Kegan Paul.

CHALMERS, J., *Pioneer Life and Work in New Guinea.*
Price 3s. 6d. Religious Tract Society.
An account of missionary experiences.

CHRISTIAN, F. W., *The Caroline Islands.* 1899.
Price 12s. 6d. net. Methuen.
A very full and interesting account of the islands and their inhabitants.

GILL, W. W., *Life in the Southern Isles: Scenes and Incidents in the South Pacific and New Guinea.*
Price 5s. Religious Tract Society.

GUPPY, H. B., *The Solomon Islands.* 1887. 2 vols.
Price 35s. 6d. Swan Sonnenschein.
A careful scientific description.

HADDON, A., *Head Hunters: Black, White, and Brown.* 1901.
Price 10s. Methuen.
An interesting account of the islands and islanders of the Torres Straits.

MACGREGOR, SIR W., *British New Guinea: Country and People.* 1897.
Price ca. 2s. Murray.

POWELL, W., *Wanderings in a Wild Country.*
Price 5s. Sampson Low.
Experiences in New Britain (now called Neu Pommern) in the Bismarck Archipelago about 1880.

ROMILLY, H. H., *The Western Pacific and New Guinea.* 1886.
Price 7s. 6d. Murray.

THOMSON, J. P., *British New Guinea.* 1892. Price 21s. Philip.
A general account of the colony and of the results of exploration to the date of publication.

WOODFORD, C. M., *A Naturalist amongst the Head Hunters.*
Price 8s. 6d. Philip.
A fine account of adventures and scientific observations in the Solomon Islands of 1886-8.

5. Polynesia

BIRD, J. (MRS. BISHOP), *The Hawaiian Archipelago.*
Cheap Edition. Price 2s. 6d. Murray.
Mrs. Bishop describes the Sandwich Islands from a visit in 1874.

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COOTE, W., *Islands North-East of Australia: The Western Pacific.* 1883. Price 2s. 6d. Sampson Low.

GRIMSHAW, BEATRICE, *From Fiji to the Cannibal Islands.* 1906. Price 10s. 6d. net. Eveleigh Nash.

— *In the Strange South Seas.* 1907. Price 16s. net. Hutchinson.

Delightful and vivid descriptions of several of the Pacific Islands, their people and products, including the Society Group, the Cook Archipelago, Friendly Islands, and Samoa.

MELVILLE, H., *Typee.* Price 3s. 6d. Murray.

— *Omoo.* Price 3s. 6d. Murray.

Two charming pictures of life in the Marquesas in the early years of the nineteenth century.

REED, W., *Recent Wanderings in Fiji.* 1888.

CHAPTER XVIII

THE GEOGRAPHY OF THE POLAR REGIONS

THE romance of geography is centred in the Polar Regions, for there alone do great expanses of the Earth's surface still defy human efforts to traverse them. The exploration of the Antarctic Regions has only been recently undertaken, but the last ten years have added very materially to our knowledge of the South Polar region. The literature of the Arctic Regions is very large. It would be impossible to enumerate the great voyages of Arctic discovery in the nineteenth century alone, and previous to that century the search for a north-west and a north-east passage had given occasion to many daring and famous explorations. Four periods may be noted in modern Arctic discovery: (1) that of the sailing ships under Ross, Parry, and others before 1840; (2) that of the search for Franklin, following on his ill-fated voyage of 1845, and continuing until 1860; (3) that of ice-protected steamers, including the "Alert" and "Discovery," under Captain Nares in 1875, and the international circumpolar observers of following years; and (4) the efforts of small parties since 1890 to effect explorations over the ice, foremost amongst these being Nansen, Peary, Jackson, the Duke of the Abruzzi, Sverdrup, and Amundsen.

To a beginner in the study of Arctic adventure there is no better introduction than General Greely's *Handbook*, which gives classified lists of records of exploration. But no one with a real love for adventurous travel will rest

content with less than all the books on Polar exploration on which he can lay his hands. The list which follows mentions only a few which are readily obtainable through the booksellers, but every long-established library should contain many of the older Arctic books now out of print, and only to be found occasionally in second-hand booksellers' lists.

BOOKS ON THE POLAR REGIONS

1. Arctic

AMUNDSEN, CAPT. R., *To the North Magnetic Pole and Through the North-West Passage.*

Geographical Journal, May, 1907.

A most interesting journey.

DOUGLAS, MISS M., *Across Greenland's Icefields.* 1897.

Price 2s. Nelson.

A short popular account of the journeys in Greenland of Nansen and Peary.

GORDON, W. J., *Round the North Pole.* 1907.

Price 15s. net. Murray.

Tells the story of the successive voyages to Arctic regions, and explains the special importance of each.

GREELY, A. W., *Three Years of Arctic Service.* 1886.

Price 42s. Bentley.

The official narrative of the expedition which gained the farthest north point on the west of Greenland.

— *Handbook of Polar Discoveries.* 1910.

Price 6s. net. Fisher Unwin.

A clear and remarkably concise record of Arctic discovery, provided with a useful bibliography.

HAKLUYT, —, *The North-West Passage.* Price 6d. Cassell.

The history of early efforts towards accomplishing the northern route to India.

HOARE, J. D., *Arctic Exploration.* 1906. With Illustrations and Four Maps. Price 7s. 6d. net. Methuen.

A useful summary, with some interesting detail of the voyages of Arctic exploration from the earliest times.

KANE, E. K., *Arctic Explorations.* Price 4s. Nelson.

The story of a remarkable expedition in 1853-5, when the American, Dr. Kane, believed he had discovered an open Polar sea.

GEOGRAPHY OF THE POLAR REGIONS 205

M'CLINTOCK, SIR L., Narrative of the Discovery of the Fate of Sir John Franklin. Price 7s. 6d. Murray.

The voyage of the "Fox" in 1859-60 here described was one of the most brilliant and successful adventures ever carried out in the Arctic seas.

MARKHAM, A. H., The Great Frozen Sea: A Personal Narrative of the Voyage of the "Alert" during the Arctic Expedition of 1875-76. Price 6s. Kegan Paul.

Admiral Markham here describes the last great British Arctic expedition, in the course of which he came nearer to the North Pole than any one had previously done.

— **Franklin and the North-West Passage.** 1891. Price 4s. 6d. Philip.

A happy blending of biography and the history of the search for the North-West Passage from the earliest time down to the voyage of Maclure.

MARKHAM, SIR C. R., The Threshold of the Unknown Region. 1875. Price 10s. 6d. Sampson Low.

An account of the knowledge of the Arctic Regions up to 1875.

— **A Life of John Davis the Navigator, 1550-1605, Discoverer of Davis Straits.** 1889. Price 4s. 6d. Philip.

Describes not only the work of Davis in the Arctic Regions, but the following up of that work by later explorers.

NANSEN, F., The First Crossing of Greenland (1888). Cheap Edition. Price 3s. 6d. Longmans.

Initiates a new principle of Arctic travel, that of having no line of retreat, so making success dependent on pushing onward.

— **Farthest North: The Voyage of the "Fram."** 1897. 2 vols. Price 42s. Constable.

This unrivalled book of Arctic travel is an account of an expedition totally unlike all others before it, both for forethought in the plan and complete success in carrying it out.

— **Scientific Results of the Norwegian North Polar Expedition, 1893-96.** 5 vols. Price 179s. net. Longmans.

NATHORST, A. G., The Swedish Arctic Expedition of 1898. Geographical Journal, July, 1899.

Exploration in Spitzbergen and the smaller islands round about.

NORDENSKIÖLD, A. E., The Voyage of the "Vega" round the Coasts of Europe and Asia. Price 6s. Macmillan.

Describes the first and only voyage to China and Japan by the North-East Passage in 1878-9, and contains a history of previous efforts in that direction.

PARRY, SIR E., The North-West Passage. Price 6d. Cassell.
Recounts the Arctic voyages in the "Hecla" from 1819 to 1825.

206 GUIDE TO GEOGRAPHICAL BOOKS

PAYER, J., *New Lands within the Arctic Circle.* 1876. 2 vols.
Price *ca.* 30s. Macmillan.

The discovery of Franz Josef Land.

PEARY, R. E., *Northwards over the Great Ice: A Narrative of life and work along the shores and upon the interior ice-cap of Northern Greenland in the years 1886 and 1891-97.* With a description of the little tribe of Smith Sound Eskimos, the most northerly human beings in the world, and an account of the discovery and bringing home of the "Saviksue," or great Cape York Meteorites. 1898. 2 vols. Price 32s. net. Methuen.

— **Nearest the Pole: A Narrative of the Polar Expedition of the Peary Arctic Club, 1905-6.** 1907. Price 21s. net. Hutchinson.

This expedition of Captain Peary reached the farthest north then attained, within 174 miles of the Pole.

SVERDRUP, O., *New Land: Four Years in the Arctic Regions.* 1904. 2 vols. Price 36s. net. Longmans.

An account of the second voyage of the "Fram," 1898-1902, to the lands north-west of Baffin Bay.

THE SEARCH FOR FRANKLIN. Price 1s. Nelson.

2. Antarctic

ARCTOWSKI, H., *Exploration of Antarctic Lands.*
Geographical Journal, February, 1901.

A *résumé* of the "Belgica" Antarctic expedition.

BORCHGREVINK, C. E., *First on the Antarctic Continent: Being an Account of the British Antarctic Expedition of 1899-1900.* 1901. Price 10s. 6d. Newnes.

The account of the Newnes expedition.

BULL, H. J., *The Cruise of the "Antarctic" to the South Polar Regions.* 1896. Price 15s. Arnold.

Describes the first landing on the Antarctic continent.

BURN-MURDOCH, W. G., *From Edinburgh to the Antarctic.* 1894. Price 18s. Longmans.

The narrative of the cruise of Dundee whalers in 1892-3.

COOK, F. A., *Through the First Antarctic Night: A Narrative of the voyage of the "Belgica" among newly discovered lands and over an unknown sea about the South Pole.* 1900.

Price 20s. Heinemann.

M'CORMICK, R., *Voyages in Search of Sir John Franklin, and in the Antarctic Regions.* 2 vols.

Price 52s. 6d. Sampson Low.

The author was surgeon on one of the vessels of Ross's Antarctic expedition, of which he here gives an independent narrative.

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MILL, H. R., *The Siege of the South Pole.* 1905. "Story of Exploration" Series. Price 7s. 6d. Alston Rivers.

A fascinating work. The first book about the Antarctic to put in a school library. Valuable bibliography.

NORDENSKJÖLD, O. G., *Antarctica; or, Two Years amongst the Ice of the South Pole.* 1905.

Price 18s. net. Hurst & Blackett.

ROSS, SIR JAMES C., *Voyage of Discovery in Antarctic Regions in 1839-43.* 1847. 2 vols. Price 36s. Murray.

The book is unfortunately out of print, and difficult to procure. Copies cost about 10s.

SCOTT, CAPT. R. F., *The Voyage of the "Discovery."* 1905. 2 vols. Price 10s. net. Smith, Elder & Co.

The account of the British South Polar expedition, 1901-4.

SHACKLETON, LIEUT. SIR E., *The Heart of the Antarctic: Being the Story of the British Antarctic Expedition 1907-1909. With an Introduction by H. R. Mill, D.Sc., and an account of the first journey to the South Magnetic Pole by Professor T. W. Edgeworth Daird, F.R.S.* 2 vols. 1909.

Price 36s. net. Heinemann.

This expedition reached the farthest South yet attained.

THE VOYAGE OF THE "SCOTIA." By "Three of its Staff." 1906. Price 21s. Blackwood.

An account of the Scottish National expedition, which did much excellent oceanographical and meteorological work in the Atlantic division of Antarctic waters and islands.

The Geographical Association.

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The Association has a lending library of standard reference books on subjects relating to geography, and these may be borrowed by members on payment of a fee designed to cover the cost of postage of the books.

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